

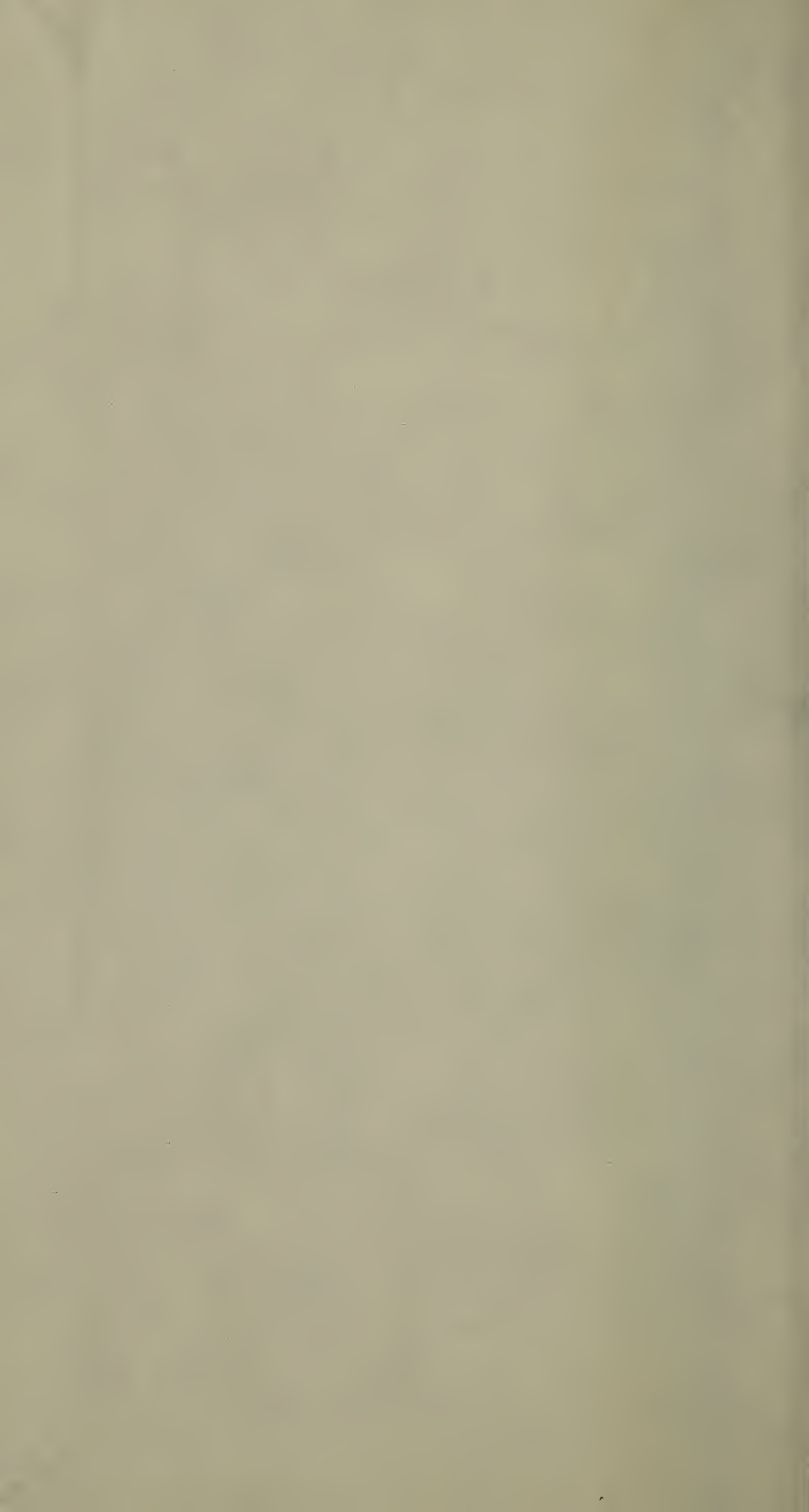
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THEORY

OF THE

BASE-BURNING STOVE

AND THE

ORIGIN OF THE

“MORNING GLORY.”

Entered according to Act of Congress, in the year of our Lord 1870,

By D. G. LITTLEFIELD,

In the office of the Librarian of Congress at Washington.

ALBANY, N. Y.:

PUBLISHED BY THE LITTLEFIELD STOVE MANUFACTURING CO.

1870.

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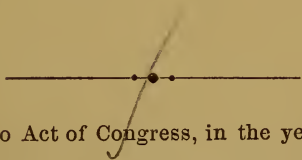
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BUFFALO:
PRINTING HOUSE OF MATTHEWS & WARREN,
Office of the "Buffalo Commercial Advertiser."
1870.

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INTRODUCTION.

Several reasons have led to the publication of this pamphlet, the most important of which may be briefly stated as follows:

1. It is due to the public that the facts herein set forth should be fully made known to all interested in the truth.

2. It has become necessary that a full and correct history of the *BASE-BURNING STOVE* should be given to the world, embodying a clear description of my several inventions combined in that stove.

3. It is due to my present business associates that all should know that their purpose when befriending me, and joining with me in the manufacture of my inventions, was not, as my opponents and rivals endeavor to make the public believe, to trample upon the rights of others or to aid me in doing so.

4. It is due to the patrons of the "*LITTLEFIELD STOVE MANUFACTURING COMPANY*" that they should have conclusive evidence that their confidence has not been misplaced.

5. Finally, it is due to myself that I should justify the sweeping statements I have heretofore written and published, in order to protect the interest of those with whom I was associated.

The facts and descriptions, therefore, necessary for these purposes, are fully set forth in the following pages. In placing the facts before the public, I have endeavored to state the truth as clearly and simply as possible, so that all who peruse this book will understand my object, and derive substantial benefit therefrom.

D. G. LITTLEFIELD,

Patentee.

Albany, N. Y., 1870.

THEORY

OF THE

BASE-BURNING STOVE

AND ORIGIN OF THE

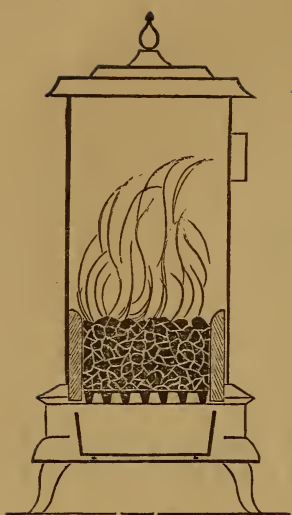
MORNING GLORY.

Prior to 1853, the term "Base-Burning" was unknown; "Magazine" stoves, however, had been in use long before that time, but to a limited extent only; and though regarded as scientific stoves, as distinguished from Surface-burners, they had evidently found but little favor with the public. The reason undoubtedly was that the great mass of people were never scientific in such matters.

The masses probably never will become scientific in matters of this character. The subject is too intricate to be clearly understood by those not making it a specialty; and, therefore, a scientific machine, to be of substantial benefit to the great mass of people, must have a perfect organization, and be so simple in its construction that, when put in operation, it will do its work correctly, without reference to the skill of the party called upon to use it.

To effect this has been my constant study since the year 1853, and the whole object of my inventions, or improvements, has been to produce such a stove.

When turning my attention to this subject I found the common "Surface-burner" to be the stove universally used in this country. The "Magazine" stove had been laid aside as a thing of the past. The minds of the people appeared to be made up on this subject, and they had



A Surface-Burner.

settled into the conviction that the only stove suitable for the masses was the unscientific "Surface-Burner."

It seemed to me that this ought not to be, and would not have been, the case, except for some radical defect in the construction of this so-called "scientific" stove.

A surface-burning stove is one that must ignite the whole of the fuel it contains in order to develop its heating power. While reflecting and radiating its heat upwardly it depends more for its power upon the quantity of fuel subjected to combustion than upon the rapidity of its consumption.

This method of operation was never regarded as in accordance with the correct theory; for the obvious reason that the volatile

combustible was free to run away from the friendly oxygen (air), admitted at the base, which would combine with and develop its heat-giving power if it could only be detained a moment at a burning point; but, passing as soon as generated to the upper region of the stove, where it was cooled, its concealed heat could not be developed, but was carried to the house-top and wasted.

The correct method of burning any compact fuel that contains but little hydrogen, is to heat it before it reaches the place of combustion, and thereby give it an affinity for oxygen.

This method is particularly advantageous with anthracite coal, for the reason that it contains but little hydrogen, and but little if any oxygen, in its formation. It must find the elements necessary to combustion in the surrounding atmosphere; to heat this fuel, therefore, before bringing it to the place of combustion must facilitate the operation.

This fact has been well known to the scientific world for many years. It has also been as well known that the most perfect method of burning any fuel is one by which the combustible must meet the supporter of combustion inversely, and permit the products to pass of sidewise to a space never to be filled.

The "Magazine" stove was intended to do this. It was constructed many years ago upon that principle; but, as before stated, it found but little favor with the public. And why not? This is a proper subject of inquiry.

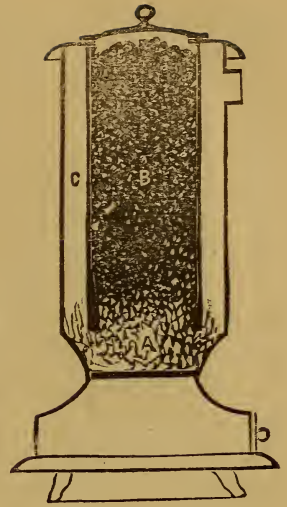
It was undoubtedly the case that "Magazine" stoves had a fair trial many years ago; and, as then constructed, they were condemned as unsuitable to the requirements of the masses; but history does not state the reason for their failure, and it can only be known therefore by conjecture. That there was a protracted conflict between the two systems is

evidenced by the fact that the late DR. NOTT took sides with and attempted to give value to this so-called "scientific" stove; but, as he retained in his stoves the defective organization of the former "Magazine" stoves, they shared the same fate.

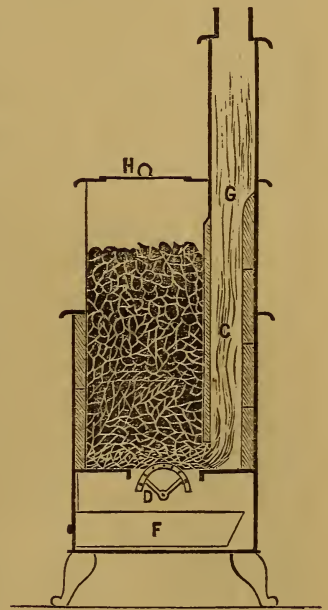
It will be observed that unlike the Surface-burner, the "Magazine" stove did not depend for its heating power upon the quantity of fuel it contained, but upon the rapidity with which the fuel was burned; the magazine at all times containing a supply of reserve fuel to be gradually heated as it should descend to the place of combustion, while its burning and heating capacity was intended to be controlled by increasing or diminishing the amount of air passing in at the base.

From this it will be seen that the "Magazine" principle has long been the property of the public. History does not give the name of its inventor, or the year when it was invented. Some writers have stated that it was used by the Chinese more than two thousand years ago. As to the truth of this I cannot give an opinion, but I am able to state that, so far as my knowledge extends, no one, prior to the date of my improvements, thought it susceptible of further invention. Like a finished city it was supposed there was no more to be done with it, except to keep it in repair, which was the purpose of DR. NOTT, or permit it to go to decay and ruin. And ruin it was, finally, at least so far as to the people of this country and its use in burning anthracite coal were concerned; for it was almost as little known to the great mass of the American people prior to 1853, notwithstanding the efforts of DR. NOTT, as though it had never been invented.

The great defect of the old "Magazine" stove is easily pointed out at this day; but not so in 1853. Then, it could only be imagined that no air ought to have been permitted to pass into its magazine at the top, and that to prevent this its opening cover ought to have been sunk within a chamber made vacuous by the action of the smoke-pipe and chimney. Now it is known, because it has been demonstrated, that air must not be permitted to pass in at the top of the magazine when the stove is in operation; and that the only practical method by which this can be avoided



A Magazine Stove.



The Nott Stove.

is to enclose the cover opening thereto within a chamber that communicates with the fire-pot, and also with the exit flue and chimney.

In 1853 it could only be imagined that herein lay the great defect of the former construction, or why it was that said stove had never gone into general use. Now it is known for a certainty, because it has been demonstrated that such was its great defect; and this fully accounts for the anomaly that an unscientific method of burning coal was so generally adopted in preference to one known to be scientific.

The former construction was faulty in that its action *could not* be controlled by the air supply at the base. Now that its organization has been perfected, it *can be* controlled by the air supply at the base.

The former construction was simply a "Magazine" stove, intended to perform what it could not, owing to its imperfections. Now it is a "Base-Burning" stove, ever reliable, and ever certain *to burn only at the base*, as was the intention of the inventor of the first "Magazine" stove, but who failed to discover and remedy the defects of his invention.

It will be apparent to the careful investigator that primarily the heating power of a "Base-Burning" stove must depend upon the size of its magazine and its proper adjustment to the fire-pot; that these two elements should be so adapted to each other as to ignite but little coal compared with the quantity the magazine is to contain; that the magazine should be so protected that air cannot enter it at the top when the stove is in operation, thus enabling it to be filled with combustible matter (coal and gases generated therefrom), instead of coal and atmospheric air coming in from the top of the magazine, for if air is permitted to pass into the magazine when the stove is in operation, it will pass to the ignited fuel, and so support combustion from that direction, and result in igniting the coal contained in the magazine, which will repeat the defect of the old construction; that the magazine and fire-pot should be so adapted to each other as to make it necessary to build and keep the fire below the magazine, so that as the coal at the base is consumed, that above will settle,—not out laterally and away from the burning point (the lower end of the magazine), but down, to supply the place of that which has been consumed.

With such an organization, a fire may be started with the frost of autumn, and by supplying coal to the magazine and shaking down the ashes daily, continued throughout the winter, if a "Mill Grate" is employed to grind up and pass to the ash-pit the refuse matter that cannot be burned. And if the lower end of the magazine, which is the most intensely heated part of the stove, and the burning point, is composed of fire-brick or other non-combustible material, the coal and all the gases it contains will be consumed and evolve all of its concealed heat, none being wasted, a result which cannot be obtained unless all of these conditions are complied with.

For the purpose of giving to the public the full benefit of my inventions and improvements in this class of stoves, I will specify, quoting from the

Letters Patent, the improved organization and the parts of the present "Base-Burning" stove embodied in the "Morning Glory."

My first application for Letters Patent for improvements of this character was filed in the patent office, July, 1853, and afterwards, dating from January 24, 1854, the following claims were patented.

"The combination of a reserve fuel-supplying cylinder, a separate fire-pot, a chamber to receive the products of combustion, and an exhausting exit flue, substantially as, and for the purposes described."

This claim was for a stove, however constructed, which employed a *magazine* and *fire-pot* having a *surrounding chamber*, providing the surrounding chamber enclosed the cover opening to its magazine. This same construction was also patented as follows:

"The combination of a fire-pot constructed as described, with a fuel-supplying cylinder, which has its cover opening surrounded by a chamber which communicates with the outlet from the fire-pot, and also with the flue leading to the chimney, when the aggregate amount of outlet space from the fire-pot exceeds the amount of inlet through the grate at the base."

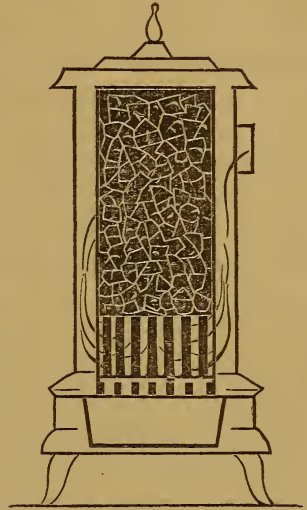
The illuminating case was patented in the following claim.

"I do not claim the intent to make an opening in the exterior case of the stove through which the operation of the fire can be seen; but what I do claim as my invention, and desire to secure by Letters Patent, is the arrangement, adaptation and combination with a fuel supplying cylinder stove, of an illuminating case to the chamber which receives light and the gaseous products of combustion from the burning fuel, substantially in the manner and for the purpose herein set forth."

The outside cover of this stove which was the first magazine stove "cover" to open sidewise was secured by the following claim:

"I do not broadly claim hinging a cover to the top plate of a stove, but what I do claim as my invention and desire to secure by Letters Patent, is the arrangement, adaptation, and combination with a fuel supplying stove, of a cover so hinged to the top plate of the stove, that it may be swung open on a horizontal plane."

All of these improvements are now the property of the public, the term of the patent expiring in 1868, which is one reason for there being so many stoves in market claiming to be "Base-Burners," some of which



employ these inventions, while others do not, but have brought forward the old "magazine" burner with its defective organization, adding my illuminated case of 1854, representing them as new and useful.

Stoves as patented by the foregoing claims were manufactured by the "Pioneers"* at Albany, N. Y., in 1853; and there are many who can well remember its partial failure.

It is safe to say there was never a stove made at Albany, or elsewhere, so completely condemned by its manufacturers. It is true that some were of the opinion that they might answer as a "Summer Stove," others thought that they might serve as a "Refrigerator," while others again, influenced more or less by the timid manufacturers, said, and no doubt thought, that "the man who got them up had better retire from business." They were conceded *by the manufacturers* to be a superior coal burner, and peculiar in that they would do this and produce but little heat; and so anxious were the "Pioneers" to have its failure known to everybody, that pamphlets printed in Massachusetts and brought with me to Albany to advertise these stoves in 1853, some of which are now in my possession, were written upon and circulated from the establishment of the "Pioneers," which stated upon their title-page that this stove was "*the only apparatus ever constructed that would compel the perfect combustion of the inflammable gases of anthracite coal without heat.*"

The "Pioneers" thus showed themselves to be a "smart" firm, by causing to be done more than the agreement called for. Perhaps this was intended as a kindness to my family, they thinking perhaps that it was my duty to labor to support them rather than fool my time away in the useless attempt to make valuable this class of stoves.

Personalities are unpleasant, and in this work I would avoid them if I could; but my inventions for the past ten years have been so rudely treated by these "Pioneers," that to notice them as above cannot well be avoided.

This "Base-Burning" stove, my first attempt, was constructed wholly of iron; its magazine being composed in part of cast, and in part of sheet iron, while its fire-pot was made of cast iron; thus constructing the outlet therefrom, and the burning point, of cast iron, which should not have been the case. There were many other defects of construction, but this was the chief cause of the failure.

Iron is a good conductor, and by this construction, heat was conducted away from the burning point, where it should have been retained sufficiently to consummate a complete combustion of the fuel; but the lower end of the magazine being composed of iron, conducted the heat to other parts of the stove, and thus lessened the ability of the magazine and fire-pot to act correctly; resulting in the production of a stove having suffi-

* MESSRS. TREADWELL and PERRY, who were permitted as *licensees*, upon a royalty, to make these stoves in 1853.

cient power only to reduce the coal to ashes, but evolving but little heat. Hence the idea of the "Pioneers" that it was the only stove ever constructed that would burn anthracite coal "without heat."

The careful investigator will observe that the defect could have been readily obviated by the substitution of some non-conducting substance, in place of iron, in the construction of the outlet space from its fire-pot and magazine.

The "Pioneers" became disheartened, and, coward-like, turned back, facing the "Star of the North" and other surface-burning stoves, unknown at this day, as promising more ready cash and profits; while the writer, compelled to make other arrangements, associated himself with other parties, and continued his efforts to perfect the "Base-Burning" stove.

As a matter of policy, and from necessity, the peculiar construction of the "Pioneer" stove was abandoned for a time; but the stove next constructed retained the same organization, so far as regarded the principle involved; varying from the former so far only that the "chamber" surrounding its magazine and the cover opening thereto, was divided into a series of "chambers"; the series acting and serving as an equivalent for the single "chamber." This stove was known in the market as the "Railway Coal Burner," and, as is well known, was the first "Base-Burning" stove ever made that proved to be a success. The outlet space from its fire-pot and magazine, and which was the burning point, was constructed of fire-brick or soap-stone; so made as to obviate the defect causing the failure of the former stove. In this stove I found a success, and, had the famous "Pioneers" been a little less cowardly, and, instead, possessed a little more confidence in the future, with the same efforts, a still greater success might have been achieved with the stove first made; in which event the "Railway Coal Burner" would not have been produced.

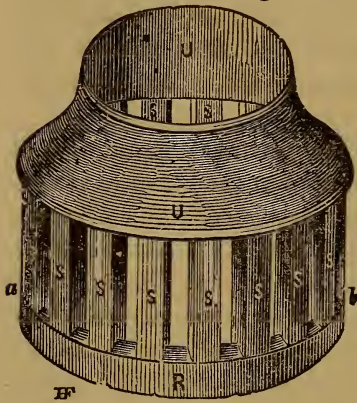
I regret the necessity of reference to these self-styled "Pioneers," but it is due to the public that the acts of such marauders should be exposed. Besides, the information relating to the science of Base Burning, which this work is intended to give, cannot be sufficiently stated without reference to them. Had their acts been just and proper, they would have received due credit; but, being highly improper and unjust to the public, as well as to myself, they must suffer the consequences.

The "Railway Coal Burner," which was the only "Base-Burning" stove then in market, was sold extensively from 1856 to 1861, during which time the stove written of by the "Pioneers," its manufacturers, as being a "dead failure," was not forgotten, as, prior to 1860, my plans for re-constructing it were carefully considered and perfected, as I was determined that the next attempt should be a success, and a stove produced which would be valuable so long as anthracite coal was burned.

Proceeding with caution, in 1859, I constructed a fire-pot which was

devised in 1853, to obviate the defect of the "Pioneer" stove. This fire-pot was tested in the stove of 1853, by using it in my own house during the winter of 1859; and by its satisfactory operation proved conclusively to my mind, that if the same had been done in 1854, and the stove put in market by manufacturers well established in the business, and who were, *in fact*, friendly to the stove, it would in one season have gained a popularity that has required years to establish.

This invention was patented for seventeen years from the 25th June, 1861, by the following claim :



Fire-Pot.

"What I claim as my invention and desire to secure by Letters Patent is, in the construction of the class of stoves which have a magazine for reserve coal, and an external case which surrounds the fire-pot, and encloses a space into which the products of combustion pass sidewise through apertures in the fire-pot, the employment of soap stone, fire-brick, or other equivalent refractory or indestructible and slowly conducting material to compose that part of the fire-pot or burning chamber between or immediately around said apertures."

After testing this invention I proceeded, in 1860 and 1861, to re-construct the stove of 1853, and produced three sizes which were introduced to the trade in 1861, under the name and trade mark of the "Morning Glory."

It will be observed that the stove, as made originally, had a perfect organization so far as regarded the protection of its magazine; and the fact that the "Morning Glory," its prototype in principle, was so popular, even from the start, is evidence of a feeling in the minds of the public in favor of the stove of 1853, and of the folly or wickedness of those who contributed to its unpopularity. The present pattern of the "Morning Glory" is nothing more nor less than the stove of 1853, with inventions and improvements, relating to these stoves as a class, added, which were produced after having obtained a better knowledge of the subject, and which would have been produced before, had circumstances permitted, in 1854, what was not done until 1860.

Thus it will be seen that the production of the "Morning Glory" was simply to combine, in a practicable form, various correct principles of construction, some of which were devised as early as 1853, but not given to the public until 1861, and after it was safe to so construct this invaluable burner as to more perfectly adapt it to its original purpose.

It was then assumed upon my seven years' practical experience with these stoves:—

First. That the air-supplying grate at the bottom of the fire-pot ought to be so constructed as to allow the removal therefrom of the slate and

other incombustible substances which accumulate therein, without extinguishing the fire.

Second. That more direct and enlarged radiation from the burning coal would be highly beneficial, and might be accomplished by increasing the heating power, and by the more equal diffusion of heat through the surrounding chamber.

Third. To the same end, and that more heat might be communicated to all parts of the surrounding chamber, the outer case required to be so constructed as to become more intensely heated, both by the direct radiation from the burning coal, and from the heat of combustion proceeding therefrom and diffusing itself over the interior surface of the case.

Fourth. For the double purpose of securing a better outer illumination, and a more beneficial diffusion of the heat radiating from the outer surface of the case, it would be important to give to it such a form, and so to dispose the windows, that the light might be reflected upward, also, to a sufficient extent, horizontally, and that a portion of the heat from the lower part of the case should be reflected downward.

Fifth. Coal-burners of this class, when in operation, generate and retain in their fuel-magazine highly inflammable mixtures, varying in quantity according to the quality of the coal and to the proportion of moisture it contains. The sudden intermixture of these gases with atmospheric air will cause explosions, and hence it becomes important, when the magazine is to be opened for the purpose of replenishing it, by some convenient arrangement, first to free it from such gasses.

Sixth. The burner should be so constructed that when in operation no atmospheric air can enter the fuel-magazine; and to this end some provision is indispensable for carrying off, through the exit flue, any air that may find entrance at the top of the burner.

Seventh. The burner should be so constructed that the hot products of combustion emitted from the fire-pot shall have room for immediate expansion; that they shall be retained at the point of expansion long enough to part with a large share of their heat; and that they shall then pass to a gradually contracting part of the chamber; because, by this means, they will be made to impart an increased and more uniform degree of heat to the whole of the transmitting case.

Eighth. For the purpose of giving to the burner the highest degree of efficiency, and of saving fuel, it should be so constructed that the hot products of combustion may be forced into full contact with all parts of the surrounding case throughout its whole extent, including its front and its extreme upper and rear portions, and then be turned downward to the exit flue.

Ninth. When used for warming the apartment in which it is placed, the burner should be so constructed as to transmit the largest share of its heat from the front, and a portion of it toward the floor of the apartment.

Tenth. When to be used for the last mentioned purpose, the burner

should be so constructed that bits of coal accidentally dropped upon the floor, or any refuse matter, may be readily and conveniently got rid of by depositing them in the magazine; and for this purpose should be provided with a sliding cover over the magazine, upon which, on opening the outer cover, such bits of coal or refuse matter may be thrown, and, after replacing the outer cover, be projected into the magazine by simply drawing the sliding cover.

These various inventions, or improvements, all relating to the same subject matter, were secured to me for seventeen years by Letters Patent, bearing date December 9th, 1862, in the following claims.

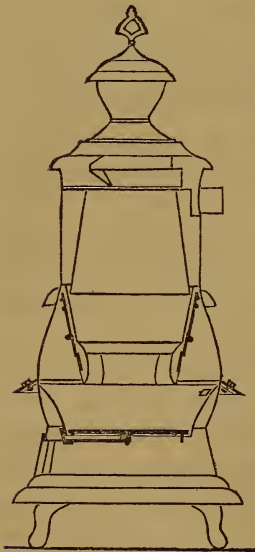


First. "The mill-grate, constructed and operating substantially as and for the purpose described."

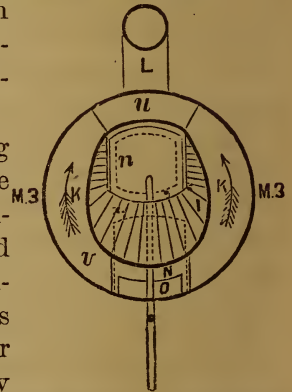
Second. "The flaring portion of the outer case (below the windows), in combination with the Fire-Pot."



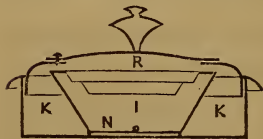
Third. "The furnace (fire-pot), opening into and in combination with the chamber (surrounding the magazine), and so constructed as to emit both light and heat from the burning coal in an upward direction."



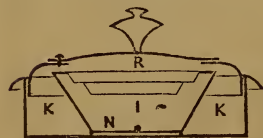
Fourth. "The compelling of the draught from the grate while the fire is kindling, and previous to and during the process of replenishing the magazine, to pass through the magazine for the purpose specified, by the means I have devised, or by any analogous devices."



Fifth. "The chamber (I) communicating with the (exit) flue, whereby air finding admission through the aperture over which rests the top cover, passes to the exit flue."

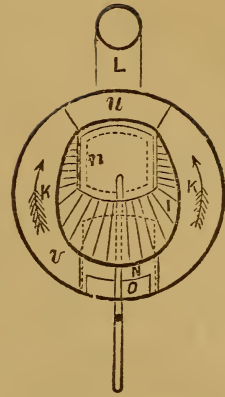
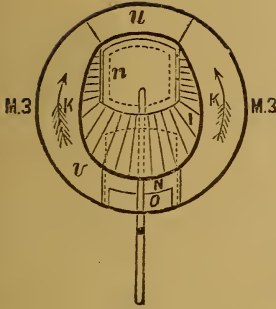


Sixth. "The divided flue (K) around the (above) chamber and forming a communication between the chamber (around the magazine) and the exit flue, whereby the products of combustion are drawn to the smoke pipe and chimney, and the heat rendered more effective by its proper diffusion within the burner."



heat rendered more effective by its proper diffusion within the burner."

Seventh. "The plate forming the top of the magazine, and projecting out over it to the outer case, and having aperture (O) at the front side, and another (U) into the exit flue."



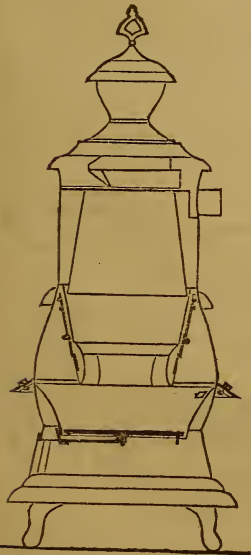
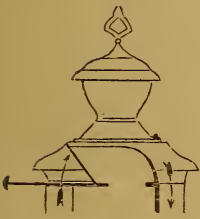
Eighth. "Such an adjustment of parts of the magazine stove as will carry the whole volume

of heated products of combustion to the front region of the stove, and thence to the rear part of it over the top of the magazine, in the manner I have described, or by any other analogous devices."

Ninth. "The grate-like sliding (reservoir) cover, in combination with the magazine."

Tenth. "The inward deflection of the case, (the window section) in its relation to, and combination with, the furnace (fire-pot) and chamber" (surrounding the magazine).

Eleventh. "The window openings in the outer case, in combination with the recession of the case."

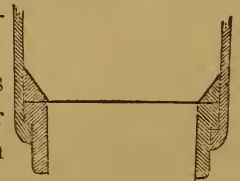


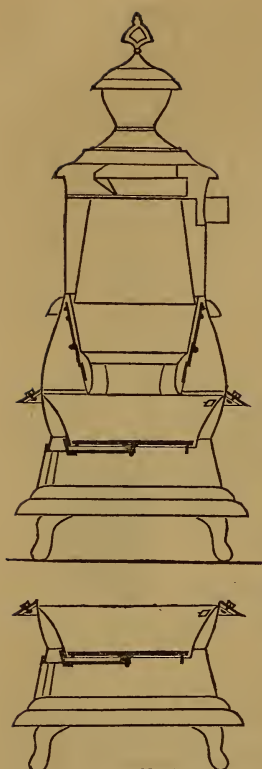
The first patterns of these stoves, those sold in 1861-2, and a part of those sold in 1863, embodied the above mentioned inventions; but desiring more heat from the base, in 1863 the interior construction was modified, and the improvements then produced—which are embodied in the present stove—were patented for seventeen years from August 18, 1863, by the following claims:

"The magazine, constructed as described, in combination with the furnace (fire-pot) separated from it, and suspended within a chamber isolated from the chamber surrounding the magazine."

"The corresponding notches or shoulders in the iron cylinder and the lining (of fire brick, which forms the burning point) as described,

by means of which the lining is held in place, notwithstanding the greater expansion of the cylinder by heat, and without danger therefrom."

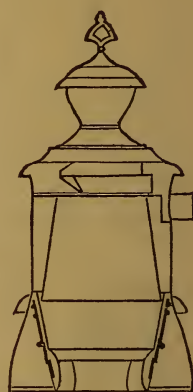




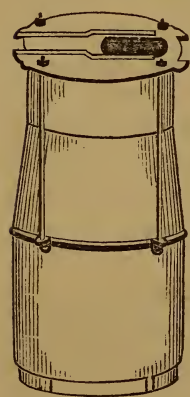
“The combination of a magazine contracting in diameter from the middle or other line downward to its lower end, with a furnace (fire-pot) suspended within a chamber isolated from the chamber surrounding the magazine.”

“The inter-communication to be opened and closed at pleasure, between the chamber of a magazine coal-burner which surrounds the fire-pot, and that which surrounds the magazine.”

“The devices described, by means of which I am able to construct the upper and lower sections of the burner, each complete in itself, separately, and so to adjust them as to admit of their being conveniently separated and reunited without injury to either.”



With these improvements added, these stoves were made and sold during the years 1863, 1864 and 1865, when further improvements were added, which improvements were afterward patented for seventeen years from April 25, 1868, in the following claims:

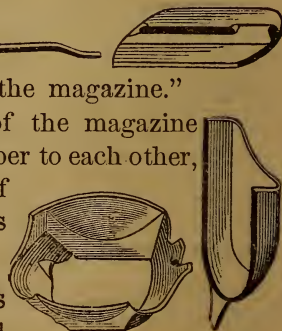


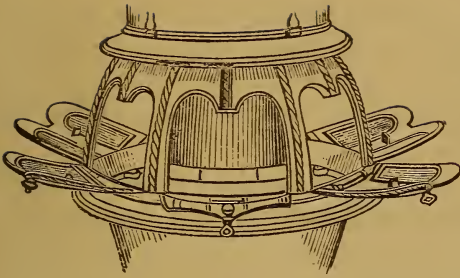
“The complete separation of the covered magazine from the sides of the surrounding case, and the devices described, whereby it is suspended and securely held in its proper position for use, while it may at pleasure be taken out of the case and again restored to its place without injury or disturbance of the case.”

“The adjustment, in the manner described, of the handle of the cover of the magazine.”

“The reciprocal adaptation of the magazine cover, the flue-plate and the hopper to each other, and of the hopper to the cover of the burner, in the manner and for the purposes specified.”

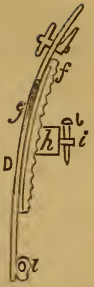
With these improvements added, the stove was made in 1866 and 1867. In 1868, the illuminated case formed of doors was added. This invention has been secured for seventeen years from April 5th, 1870, by the following claims:



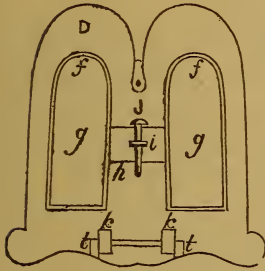


“Constructing the illuminating case of stoves with doors or windows which swing vertically downward.”

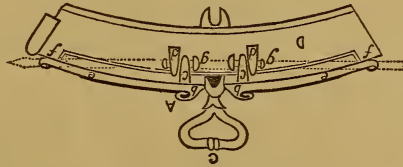
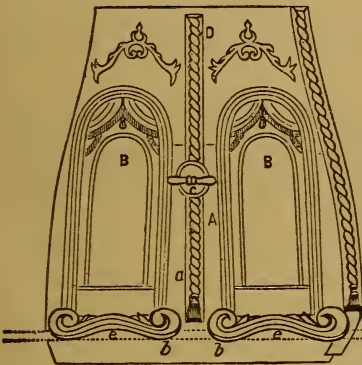
“Holding the mica frames to the doors by means of the curved connecting bar.”



“In combining with a vertically swinging door, the arrangement of the concealed hinges.”

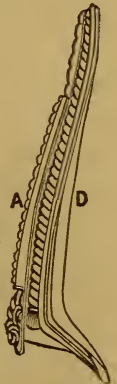


There has been granted a design patent for fourteen years from May 4th, 1870, upon the construction of the hinged doors, securing to me the “exclusive right” to so form any curved hinged door at the lower part of it, that it may be drilled with the ordinary straight drill, and yet have the hinge concealed.

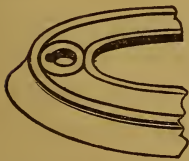


Claim:

“The design for a concealed hinge stove door, as and for the purpose herein shown and specified.”



There was granted, on the 13th of March, 1866, a patent for seventeen years for the hinge to the cover of these stoves, with the following claim:



“A detachable cover and its seat, respectively provided with a pin and an opening, so constructed as to engage or lock with each other, for the purpose of hinging and securing a cover upon an open-topped vessel, substantially as described.”



Thus it will be seen that the present pattern of the “Morning Glory” stove embodies twenty-four distinct and separate inventions, or improvements, under patents now in force, besides the original inventions that were patented January 24, 1854.

The United States have granted to me for the terms of years men-

tioned in these patents, "*the full and EXCLUSIVE RIGHT and liberty of MAKING, USING and VENDING to others TO BE USED,*" these various inventions; therefore it is *a violation of law*, besides making a fraudulent use of my property, for any person *to make, sell or use*, any of them, excepting those of 1854, without my authority.

The law of patents is such that any person, though he may have purchased in good faith, is liable to an action for infringement for *selling*, or *using*, even a single stove which embodies any of these inventions, the patents for which are now in force, unless the stove was *made* or sold by the patentee, or some one authorized by him to do so.

This law was made to protect the rights of the public; but it is peculiar in that it declares that an "invention" *shall be the exclusive property of the "inventor" for a certain term of years*; and therefore it is as much the duty of the public to sustain this law as it is to sustain any law; and as wrong to join hands with those who violate it, and appropriate the property of others to their own use, as it would be to coöperate in the violation of any law. Taking this view of the matter—and no honest man can take a different one—it will be conceded that no person can have any more moral right to purchase and use a stove that in its construction has appropriated, without right, my inventions, knowing that such is the case, than to purchase and use my hat and boots, knowing them to have been stolen.

There are various grades of infringers, but the meanest grade that I have had to deal with,—and I think the case is without its equal in atrocity,—is the instance where *an irresponsible party, one of the self-styled "Pioneers,"* falsely represented that he was the "*agent for the owner of these patents for the States of NEW YORK and CONNECTICUT,*" and that he was putting these inventions in practice. This unjust pretension has been put forth in the most shameless manner for many years, by both him and his principal (who was his wife), who were without any means with which to do business; the "agent" himself being insolvent to the extent of several hundred thousand dollars, and therefore justifying the suspicion that he was simply a "*cat's paw*" put forward by those who were responsible, and who were equally anxious for plunder.

This man, who has thus claimed to own my inventions, has at the same time sought in every manner possible to so avoid them as to make it difficult to call his associates, the responsible parties, to account as infringers; they evidently taking this precaution, fearing that the scheme to deprive me of the privilege of using my own property at Albany might fail, as it has. While making this pretension, and publishing far and wide that he *as agent* was the owner of these inventions "by purchase and assignment," his associates were placing themselves in the position, in answer to a suit from me, to be able, with considerable plausibility, to make answer that none of their "gains and profits" arose in fraud of any *legal rights* of mine; preparing to take the position that it was the public they had

been defrauding, if fraud it was, and not me; that their "gains and profits" not being made *by the use* of my inventions, are not recoverable by me in a suit for infringement. A good defence, if established, but very similar to the one made by a pick-pocket on trial for burglary, when pleading that he was not guilty of the crime charged in the indictment, notwithstanding his propensity to practice the art of pocket-picking.

It is a great sin, being a violation of the eighth commandment, to steal any kind of property; and to do so for the purpose of making large "gains and profits," makes the crime more perfidious. And where a party falsely represents that he is the owner of my inventions, for the purpose of selling a bogus article, though he may not violate the eighth commandment, he more than violates the ninth. He not only bears false witness against me; but seeks to do me injury, by so treating my property before the public as to bring it into disrepute. He and his associates, by their libelous publications, intend that their base imitations shall be regarded by the public as a specimen of an inventor's skill; while those instrumental in this mischief regard themselves as free to pocket the money thus made without fear of its being taken from them by him so grossly outraged.

The firm here referred to, so far as my knowledge extends, were the PIONEERS in *this* mode of doing business.

Other classes of infringers are at work, some of them following in the wake of these "pioneers," taking the form without the substance; while others, apparently taking advantage of the circumstance that my time, since 1862, has been so much occupied in preventing these "pioneers" from carrying out their scheme, and thinking, no doubt, that I could not for that reason prevent their piracy, have taken my property to fix up the exterior portions of their stoves, with as much coolness as though they expected the approbation of the public for so doing.

These remarks are not intended to apply to all who are manufacturing "Magazine" stoves. There are some honorable manufacturers, who seek in good faith to use only their own inventions, together with that which has become the property of the public. With such manufacturers there is never any serious trouble, for when, by accident, they infringe, they are ready to change and avoid interference, or pay for what they have inadvertently taken. I might mention several instances where this has been done, but it will answer my purpose to state that all the magazine stoves in market that have been specially adapted for burning anthracite coal, which maintain perpendicular lines in the construction of their exterior cases (adopting the form of the stove of 1853, see page 7), either do not infringe my patents now in force, or have arranged to use a portion of my inventions. But all of those stoves adapted for burning anthracite coal which have adopted *the form* of the "Morning Glory" are either infringements, or bogus in character; having assumed *the form* because it is popular, or have taken my property in a fraudulent manner.

The purpose of this pamphlet is to give such a description of my inventions, that any person can determine whether or not any particular stove embodies them, or a portion of them; and if any, how much; and whether or not a stove which infringes in some respects, is, in fact, a desirable stove for use.

The careful investigator will discover that a large share of my inventions relate to the magazine, and to the chamber which surrounds it, their object being to enhance the value of those two elements, by making them more effective; and it is contended that these are the material parts of the stove, and that the other portions are subordinate to them.

It is true that the "basin" or "fire-pot" and grate, which holds the coal up to the burning point (the outlet from the magazine), are parts which require care in their construction; particularly the grate, which should be so constructed as to dispose of the slate and slag, which cannot be burned, without the necessity of allowing the fire to go out. The "mill grate" was devised for this purpose, and in the seventy-eight thousand six hundred and twenty-three "Morning Glory" stoves that have been sold since 1860, it has proved itself to be a perfect adaptation, and a finishing of that part of the stove; and it is contended that, next in importance to the magazine and the conducting flue and heating chamber which surrounds it, is this item at the base called the grate. It is also contended that even with the "mill grate," and a fire-pot of the most perfect construction, if the magazine is defective, the stove will be of but little practical value,—that such a stove will carry with it the seeds of its own destruction, which sooner or later will germinate and convince its user that when purchasing it a poor selection was made.

These statements being true, it follows that it would be moderately safe, notwithstanding my patents, for any person to make a stove so as to resemble the "Morning Glory" *in its external appearance*, and suspend a joint of stove pipe from its top plate over the centre of the fire-pot. It is supposed that the "right" is perfect to call this bit of pipe a "magazine or feeder," as circumstances require, and the stove a "Base-Burner," in order to sell it; but such are not the kind of "Base-Burners" that merit the patronage of the public, nor have they resulted from my inventions; but are a *make-believe*, got up to sell, because the common surface-burners *will not sell*, owing to the success of the "Morning Glory."

Various kinds of evasion have been resorted to. In some instances a cylinder left open at the top, and made very small from the middle to its lower end, has been suspended in the centre of the stove; sometimes adjustable and sometimes not, and called a "feeder," which is proper; as it not only feeds the coal relieved of a portion of its combustible properties to the fire-pot, but it also feeds this same combustible, unburned, from its open top to the chimney flue.

In some instances, this open-topped feeder has been made larger, to make it seem like a magazine, and lined with brick at the lower end (a wise

precaution), having openings through its sides just above the brick. This construction, so far as to facilitating the escape of the volatile combustible unburned, is preferable to the first-named construction, from the fact that it heats the coal to a higher degree before discharging it to the fire-pot, and thus evolves more of its gases to go to waste.

In some instances, this "feeder" has been made open at its sides throughout its whole extent. This, so far as to facilitating the escape, unburned, of the volatile combustible, and the consequent waste of fuel, is very greatly in advance of either of the before-mentioned constructions, as will be apparent upon the slightest examination.

In some instances, the chamber to contain the coal has been very much contracted at its lower end, practically making it a "feeder" only; although at the top, it being large, it *appears* to be a magazine. It is placed high up from the fire-pot, in order that the iron, of which it is composed, may not burn out. Such a construction will expose to view through the mica windows a large pile of coal, in a partial state of ignition only; and necessarily so, because the top surface and the outlet space from the fire-pot being so far from the grate, and so much larger than the inlet space for the air through the grate, the coal at the top cannot be consumed, but is converted into carbonic oxyde and passed to the chimney and wasted.

If it is desirable to waste fuel, the last mentioned construction should be commended in preference to either of those before mentioned, for the reason that its only available points of heat are the sides of the fire-pot, and such a stove can only be made to heat by a great destruction of fuel.

All of these evasions are called "Base-Burners," but none of them are the result of my inventions, unless it be that their manufacture has been a resort made necessary by the success of the "Morning Glory," and the inability of manufacturers to sell anything not called a "Base-Burner."

Another class of these so-called "Base-Burners" is the magazine stove as it was prior to the date of any of my inventions or improvements, the great defect of which I have already pointed out. My illuminating case, the patent for which expired in 1868, has been added to these old stoves, so that they are made to look very respectable, and therefore are well adapted to be taken for "Base-Burners," when in fact they are simply the old "Magazine" stove having my illuminating case added.

In 1863 (see page 13), I patented a method of constructing the lower end of a suspended magazine when composed of fire-brick (the shoulder upon the brick and a corresponding shoulder upon the iron cylinder), by which the bricks are kept from going down during the unequal expansion of the two substances, which takes place on starting the fire.

It would be difficult to use brick in constructing the lower end of such a magazine without infringing this patent. This feature, together with the "mill-grate," patented in 1862, is very important; so much so that without them the "Morning Glory" could not have achieved its present

reputation. Imitators have not interfered with either of these inventions, notwithstanding the chief among them has published far and wide that he was the "*agent for the owner of the patent for the States of NEW YORK and CONNECTICUT.*"

But it has been found necessary for some of these imitators to do something to the lower end of the "feeder," or magazine, as the case may be; and therefore they now construct them hollow, introducing a current of air to circulate in this hollow space, and from that direction to the top of the burning coal; thus admitting that a great depth of coal ignited is only being wasted by passing a portion of its combustible properties to the chimney unburned; but it will be found, as time progresses, that such admission of air will increase rather than remedy the difficulty, by its checking the action of the stove, and causing a poorer quality of combustion within the fire-pot.

The absurdity of such a plan is shown by the fact that such "feeders" or magazines, do not readily melt and come to pieces. That they do not, proves conclusively that no additional combustion takes place. The only gas coming from the top of an anthracite coal fire that will burn is carbonic oxide—carbon half oxydized—and to combine the other portion of oxygen with it, which must be done to burn it, requires a temperature of both the air and gas of nearly one thousand degrees of heat; and if a chemical union is thus effected, the temperature at the point of ignition will be increased from three to five-fold; and as iron melts at a less temperature, the lower end of the "feeder," or magazine, would be destroyed within the first twelve hours of such burning.

Air will mix with such gases and make them more apparent to the vision, giving the seller of such a stove a fine chance to talk about gas-burning; but this is not combustion, and while it does not evolve any heat, it actually cools those gases on their upward passage. All the air which enters the stove *above* the ignited coal, only tends to cool its upper portions and make it less effective; and for this reason the case forming the chamber around the magazine, and receiving the highly heated products of combustion from the fire-pot, ought to be as near air-tight as possible; and the effect will be precisely the same, whether air is permitted to pass in through the hollow magazine to this chamber or through openings of the same size made in the surrounding case.

Another objection to such admission of air through the hollow magazine is the fact that it cools and reduces the temperature at the point where active combustion must take place, if at all; which is contrary to the correct and established theory. But this may aid the imitators and save them from the charge of infringement for copying *certain forms*, which, in the "*Morning Glory*," have for their object to increase the temperature at which combustion is to take place.

The chamber surrounding the fire-pot and magazine necessarily forms the heating surface of the stove, and also the conducting flue chamber to

receive the heated products from the fire-pot, and impart their available heat while passing them to the exit flue and chimney. How important, then, that this current passing from the place of combustion to the exit flue shall be *as highly heated as possible on leaving the point of combustion*; and retained and circulated within this chamber as long as possible, in order to have an economical stove,—one that will impart the greatest amount of heat in proportion to the amount of fuel consumed.

The devices necessary to produce such a result are :

First. A properly constructed “covered magazine,” one as large as the size of the stove will permit, and nearly as large in diameter at its outlet as the grate at the bottom of the fire-pot. It should be (at least its cover opening) completely immersed within the chamber receiving the products of combustion from the fire-pot, in order to prevent the entrance of atmospheric air under this cover to the fuel it contains when the stove is in operation. I believe there is no other method by which this can be avoided. Its lower end should be composed of some non-combustible and slowly conducting material, such as fire-brick, as this part of it, in its proper adjustment to the fire-pot, forms the burning point. And, as it is highly advantageous to retain heat at this point in order to consummate a complete combustion of the fuel, it must be composed of some non-combustible substance, in order to accomplish this with safety to the stove. Iron will not answer the purpose if the magazine is so adjusted to the fire-pot that a perfect combustion can be, and is, produced.

Second. The magazine thus constructed, should be so adjusted that the space between its lower end and top of the fire-pot, shall not be more than equivalent to the size of the grate.

Third. There is no doubt that with the first fire, or for the first forty-eight hours after starting a fire, the operation would be more perfect if the fire-pot was lined with brick or soap-stone; but this, with the “Morning Glory,” has not been done, and for the reason that, if so lined, clinkers would adhere to its sides, and require removal, which cannot be done without much inconvenience. A fire-pot made of iron, and so constructed that a certain amount of ashes will adhere to its sides, forms a lining to which clinkers will not adhere; and they cannot adhere to the brick end of a magazine, for the reason that the coal in its descent removes and prevents any accumulation at that point, which would not be the case with the fire-pot, it being a resting place for the coal.

Fourth. To carry out this plan, and make the best use of a *brick-lined magazine* and an *ashes-lined fire-pot*, the grate on which the coal rests requires to be so constructed as to remove with ease the substances that cannot be burned, without letting the fire go out. Letting it go out to make such removal also removes the lining of ashes, which will take some days to replace after starting the next fire. It is claimed that for this purpose the “mill-grate” is a perfect adaptation; and that no other grate can accomplish this purpose in a satisfactory manner.

Fifth. To make the best use of these elements, the case to surround them should be so constructed as to be uniformly heated throughout its whole extent. And it is claimed that this can only be done in part by *the form of the case*, and in part by properly constructed interior devices.

By *form* only can the lower part of the case, which receives the heat from the sides of the fire-pot, reflect it toward the floor of the apartment.

By *form* only can the case above the fire-pot be enlarged so as to give room for the requisite expansion of the highly-heated products of combustion, as they issue from the burning coal, and permit them to *pass freely* from the combustion point.

By *form* only can the illuminating space be increased in size; and it is also by *form* that this enlarged surface is made to incline in over the fire, so as to become more intensely heated than it would be if perpendicular lines were preserved in its construction.

By *form* only can the case above the illuminating space be contracted; which is necessary, not only to secure the requisite detention, but from the fact that, as the volume of heated products will contract just in proportion as they part with their heat, they require to be passed to a more contracted space in order to continue to impart an equally intense heat to the contracted portions of the case.

Thus far the *form* may be made instrumental in producing a beneficial result; but beyond this, and when the heated products have passed to the contracted part of the case, they should be brought to the front region of the stove, and near the top of said case caused to be passed through a still more contracted space,—an aperture not more than one-twelfth the size of the outlet from the fire-pot. This can only be accomplished by a proper interior construction; and by this means the escaping current may be retarded, and caused to impart an intense heat to the upper cylindrical portion of the case, as well as to the lower portions; and passing said aperture at the front of the stove to properly constructed flues, over the top of the magazine, they will impart an intense heat to the whole upper part also, and with an ordinary chimney draught will leave only sufficient in the escaping products as is necessary to maintain a heated current within the chimney flue, which is requisite to the satisfactory operation of any stove.

Articles of value may be known by comparison, and sometimes they are only to be discovered in this manner. This is peculiarly the case with “Base-Burning” stoves, and for the reason that the great mass of people do not have the same knowledge of them as they do of other stoves.

It is but a few years since my inventions, which gave life to the “Base-Burning” stove, as all must admit, were known; and therefore it is not presumptuous to assume that the great mass of people do not yet have the requisite knowledge to discriminate and determine as to the merits of the various stoves now in market claiming to be “Base-Burners,” unless it be to judge by comparison, after they have learned what constitutes a “Base-Burning” stove.

The same may be said of many who deal in stoves; and many of them are indifferent as to the *true character* of a stove. If it only has a "taking" appearance, so as to sell and give them a profit, it will answer their purpose. What care they for the principle of the thing? Their purpose is to purchase and sell *for the profits to be made*; and where this is the whole purpose, such dealers provide themselves with a sample of various patterns, and then use their influence to sell the one that pays them the best profit, without reference to its merits, of which they themselves are incompetent to judge.

I have nothing to say as to this bungling manner of doing business, but refer to it as a fact necessary to be stated to justify my purpose in this publication, which, as before stated, is to give such a description of my own inventions as will enable the public to judge, by comparison, whether or not any particular stove they are called upon to examine is, in fact, a genuine "Base-Burner;" a term originating with me, and to characterize a stove that can burn *only at the base*, by reason of a *properly constructed magazine*.

There is no disguising the fact that it was the great success of the "Morning Glory" which produced the present demand for "Base-Burning" stoves; and the fact should not be lost sight of by the public that this stove has obtained its fame and reputation upon its merits alone; that while many imitations produced by influential manufacturers have come and gone, the "Morning Glory" continues to increase in public favor. That, commencing in 1861 with a sale of less than nine hundred stoves, it has increased to more than twenty thousand per year. And this not by the efforts of influential manufacturers, with their customers to aid them in forcing them upon the market, but by parties not having any customers to aid them at the commencement, and in opposition to the combined influence of such manufacturers, and their customers as well, in many instances; they contending that "Base-Burning" was a delusion, while those who *knew what they were manufacturing* proceeded in their efforts, relying, as necessity compelled them, upon the true merits of a *correct principle properly developed* for their success; which, as is very well known, has been far beyond their expectations.

Not many years ago, it will be remembered, there was an "irrepressible conflict" between the principle of "Base-Burning," as exemplified by the "Morning Glory," and the leading manufacturers of surface-burning stoves, and many of their customers throughout the country; and as right in the end generally prevails, so it was in this instance; resulting, undoubtedly, in a far greater success than would have been achieved in so short a time had there been no unfair opposition to contend with. Unfair is not the name for it, as from some sources it was devilish,* and of such a diabolical character as not soon to be forgotten.

* Read the Appendix.

My patent of 1862 will not expire until 1879; that of 1863 in 1880; that of 1868 in 1885; those of 1870 in 1887; and the inventions or improvements secured to me by these patents so effectually cover the ground in those elements required to be embodied in the construction of a *practical* "Base-Burning" stove, that it is impossible, without infringement, to fully equal the "Morning Glory" in that respect. This is particularly the case so far as to my patents of 1862 and 1863.

Any quantity of stoves can be made, and I suppose will be, without infringing any of these patents; but they cannot be so made as to embody the characteristics of the "Morning Glory" without a wrongful appropriation of my property.

There is no manufacturer, not even the one who assumed without right to be "the agent for the owner of these patents," that dares to duplicate the most essential features of the "Morning Glory." Its *form* only do they take pleasure in copying; and *form*, as such, is not patentable; and therefore it is safe to imitate the form if the interior parts are so different from the "Morning Glory" as to change the character of the stove; and if the public will examine the interior construction of the "Morning Glory," in which consists its real value, and compare it with the interior construction of the stoves made to imitate them, they will find a wide difference; and generally in proportion to the nearness of the imitation, will be found a departure from its peculiar interior construction.

This is a wise precaution, and a course pursued, undoubtedly, by legal advice—that of professional expert lawyers, who would as soon be employed to criticise, advise, and contrive ways and means to break down the patent property of an inventor, as they would to protect such property if their services were so required.

In these imitation stoves will not be found the "Mill-Grate," the patent for which (that of 1862) would be infringed if it was used in any stove, the importance of which can hardly be over-estimated. Neither will it be found in any of them that they are so constructed as to make a "magazine" the seat of power, or other parts of the stove subordinate to it. Such imitators will plead that *their* "magazine" is only a "feeder;" that they depend for heating power upon the size of the fire-pot alone. But what better is such a stove than the old-fashioned kind, where the coal was fed from a coal-scuttle? Certainly not in economy.

Neither will be found my interior construction (patent of 1862), devised to bring the products of combustion *to the front region of the stove*, and pass them *over the top of the magazine* made for the purpose of utilizing the heat.

Neither will my inventions (same patent), to retain and keep back from the chimney the heat, and utilize it by passing the products of combustion through a small aperture before they reach the top of the stove, be found in any of them.

Neither will my invention (same patent), to prevent "puffs" and explo-

sions, by freeing the magazine of the gases contained in it before opening the outer cover, be found in any of them. Some of these imitations are so made as to appear externally to employ this invention, but on removing the top plate of such stoves, the cheat will be disclosed.

Neither will be found in them a *closed magazine*, or "feeder," having its lower end composed of fire-brick, or any other non-combustible material (patent of 1863); and I contend that a practical "Base-Burning" stove cannot be made and permit this part of it to be composed of iron.

Neither will there be found in them a stove so constructed as to be taken apart by dividing it into sections, so as to repair them readily (same patent).

Neither will there be found in them a *covered magazine*, so made and applied as to be separate from the surrounding case when the stove is in use, and that will not injure the case by its use, and that can be taken out for repairs without taking the stove apart (patent of 1868), or any other feature secured by this patent.

These inventions, so far as relates to the economy of the stove, its durability, ease of management and convenience in repairing, are the essential features of the "Morning Glory," not one of which are to be found in any other stove, and probably will not be until the expiration of my patents.

The public will discover, upon a careful investigation, that there is a wide difference between stoves of this character now in market; and that this difference is mainly owing to the fact that "Magazine" stoves were made many years ago; which fully accounts for this sort of stove being so numerous at the present time. This is also the principal reason why the ordinary stove makers are at liberty to aid in supplying a demand for "Base-Burning" stoves, *which has been produced by my inventions alone.*

There cannot be a greater error than to suppose that because a stove is so constructed that its makers have some reason to call it a "Base-Burner," that it is worthy of patronage. "Like produces like"; so in stoves as in the vegetable kingdom; and if a stove invented many years ago failed, owing to a defective organization, the same will again occur if the same cause exists. It is a fact easy to be substantiated, that there are a large number of stoves in market claiming to be "Base-Burners" which are duplicates in principle of construction of the old machine, and which are far inferior in point of fact to the common stove, and would soon give place to them were it not for the fact that my inventions are kept so prominently before the public.

The "Base-Burning" stove is a scientific machine, which requires to be made by those skilled in the art, in order to insure a correct construction, while the surface-burner can be made by any stove maker, it being as easy to construct as it is to build a fire upon the ground; and it is unreasonable to suppose that ordinary stove makers, who have only had experience with common stoves, can suddenly "turn their coats" and

embark in the production of "Base-Burning" stoves, to the advantage of the public, as well as to themselves.

In considering this question it should be remembered that I have had seventeen years' experience in this matter; that competitors cannot safely follow in my footsteps; and that they do not so follow me in the most material features. They can copy my *forms*, and thus appear to do this; but the time has not yet come when other manufacturers can avail themselves of my inventions brought into legal existence with the "Morning Glory."

It should also be remembered that none of these competitors have any better opportunities at the present time than I have; nor more experience in stoves of this character than I had at the commencement; and if seventeen years devoted exclusively to a *particular class of stoves* is worth anything, besides the protection of my patents, by such experience I am so much the better able to keep in advance of those who pretend, and who would like to follow me, but who dare not do so to such extent as to make themselves clearly amenable to the law.

I am disposed, as heretofore, to be enthusiastic in commending a principle in which I have taken so deep an interest. I commenced in this way, and with the whole community to contend with, I have thus pursued the matter until the number of my stoves in use can be counted by thousands, and have lived to see a complete change in the minds of the public with reference to them.

In 1853 the "Base-Burning" stove had no friends save its constructor. At the present time, the whole community being in its favor, it has no enemies save those who would prostitute its virtues in order to make money; and it must be conceded that this change in the minds of the public is a victory gained that is seldom accomplished during the life of any one person. It is more than I expected, as my highest aspirations were to make a beginning for others to finish, trusting that I should receive a portion of the benefit.

Had I taken the advice of friends, I should not have embarked in the enterprise; and so embarking, I was without friends, and was compelled to look to strangers for assistance, which was apparently a misfortune; but yet it may have been a blessing in disguise.

It is no easy thing to change the mind of a community. When that mind is made up it is seldom changed, except by the passing away of those who moulded the opinions, and by influences brought to bear upon those who follow after them; and the inventor who is compelled to work a change in the mind of the community before his inventions will be truly valuable, has a dubious prospect before him. I was forewarned that this was my position, but still pursued the matter, and why I did so would be difficult to explain.

I shall be excused for relating in this connection two incidents of this personal history. After having discovered, as I supposed, the great

defect in the organization of the "Magazine" stove, I had an irresistible propensity to consult those who were competent to advise in matters scientific; and therefore called upon various gentlemen of this stamp residing in different parts of the country. From these interviews I was enabled to gather much valuable information, and thus more completely fortify my position. In every instance, so far as to the defective organization of the stove in question, their views corresponded with my own. At New York I called upon a gentleman having a national reputation, and who at the time was in the employ of the United States Government. This gentleman treated me very handsomely, and, instead of taking the matter into consideration at our first meeting, named an hour when he would meet me; at which time he approved of my views upon all material points.

After the subject was exhausted, and he had expressed his approval in very flattering terms, he remarked that he was in hopes that what he had said would not be the means of leading me into difficulty; explained that his approval had reference to the principle involved, and had not been expressed with a view to advise me to embark in the manufacture of such stoves.

This turn of affairs took me by surprise, as I had already been induced to commence the building of "castles in the air." But as he had been frank in expressing his opinions, I felt at liberty to call for an explanation, at the same time giving as my opinion that a principle so correct, and of such apparent value, could not fail to meet the approbation of the public. To this he replied that I was in error; arguing that the minds of the people were all made up on this subject, and had been for many years, and to the effect that coal was only to be burned in a certain way, and which was directly the opposite from "Base-Burning." Predicted that when making efforts to sell such stoves, it would be "up-hill" work, in that I would find the prejudice of every person to be against them; that before any money could be made, it would be necessary to work a complete change in the minds of the public; and to do this, however dilligent I might be in the effort, even if I should succeed finally, it was hardly possible that I would live long enough to receive any benefit from it. And, evidently with a view to dissuade me from the enterprise, he turned himself in his chair so as to face me, and calling me by name, said, "Mr. L. you have the appearance of a man that would be competent to succeed in almost any feasible enterprise, and there are many such opportunities, and my advice is, that you drop this subject and take hold of something more certain of a reward for your services."

It would have been better had I never seen this gentleman. Had I believed him to be correct as to the feasibility of the enterprise I should have abandoned it; but, persuading myself that he was in error, I proceeded, although with "fear and trembling." I had less confidence in success, and therefore the interview was an injury, besides it was the cause of much anxiety, and of many hours of unpleasant thought.

This was the last person of this stamp consulted prior to making the stove of 1853. In my view at that time it was sufficient, and that such interviews had better not be repeated. In some respects he was right, as I afterward discovered; but as a whole he was greatly in error, and ought not to have so treated the matter. From his stand-point he should have known that the world moves, and does not go backward; and that a step in advance is so much gained, and if rightly taken will never be receded from.

As before stated, the stove of 1853 was not a success, though it was not so much of a failure as claimed by its manufacturers. After this, and when the matter was at its lowest ebb, I felt as though my success, to a great extent, must depend upon having the aid of some person competent to advise in matters of this character; and for various reasons I selected the late Dr. Nott as the proper person. With considerable doubt as to what the result might be, I called upon him at his rooms at Union College, Schenectady. And mark the difference between him and the gentleman before referred to. So soon as I had explained what I proposed to do, he took me by the hand and assured me that I was the first and only person he had ever met that had constructed, or had tried to construct, a stove upon correct principles; and upon asking him if he could be induced to aid in the matter by his advice and counsel, he assured me that nothing would give him greater pleasure.

This my first interview with this great and good man ended by his consenting to remove one of his own stoves from where he had used it for over thirty years, and have one of mine, as imperfect as it then was, put up in its place. The first and most pleasant result of this interview was the dissipation of the night-mare bearing me down since my interview with the man of science at New York.

I had no further occasion to call upon other men of science, and have never done so. But for several years, and as long as Dr. Nott was able to attend to business, I received his aid and counsel. Have taken stoves to his room at Schenectady, and taken them apart and put them together again in his presence for the purpose of submitting to him their peculiar devices and construction; and many alterations were made at his suggestion, and afterward found to be advantageous. But the benefits derived from such suggestions were nothing in comparison to his aid in other respects.

I was then full of ideas as to how the stove, under its new organization, ought to be constructed, some of which turned out to be erroneous. *It was him alone that was fully competent to select the wheat from the chaff;* and this he did, causing me to discard many erroneous ideas I had before entertained, and giving me greater confidence in those that were of the genuine character; and in this way I was greatly aided by this eminent man; resulting, in my opinion, in the production of a more perfect stove than would ever have been produced by me had it not been my fortune to receive his aid.

At all times, whether constructing or re-constructing these stoves, my sole purpose has been to make them more valuable. The views of those not understanding clearly what constituted a "Base-Burner" I have seldom taken into consideration; and in some instances I have lost trade by not doing so. But time has shown that this was the proper course to be pursued; and that it undoubtedly has resulted in the production of a better stove and more friends, than if I had undertaken, as manufacturers generally do, to cater to the notions of those who are evidently disposed to be friendly, but who are incompetent to construct a stove of this character; and therefore there is nothing to regret on that score.

I have great confidence in the "Morning Glory," and to such an extent that I do not hesitate to say, that at the end of two seasons' use the party purchasing and so using one of these stoves will be better off, in the matter of dollars and cents, to say nothing of their convenience, than if for the same use any other stove had been put up free of charge.

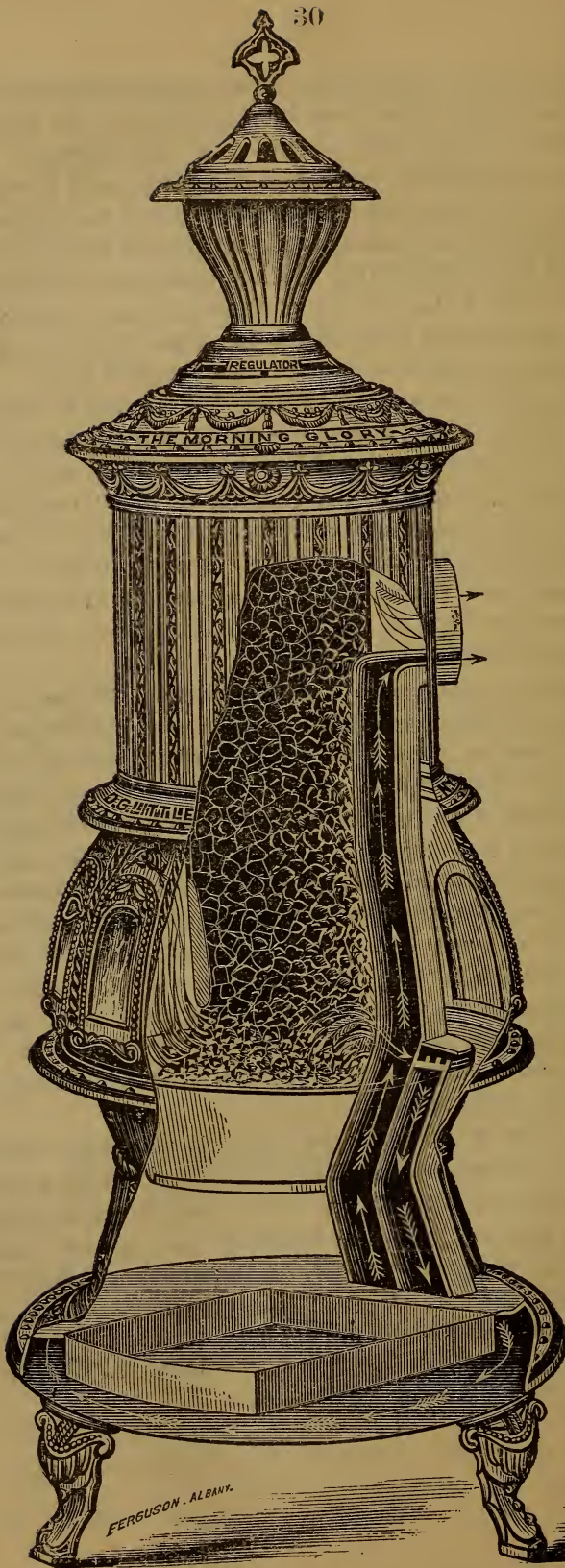
The "LITTLEFIELD STOVE MANUFACTURING COMPANY" for the past two seasons have stood behind their customers and authorized them to put these stoves up on trial in place of any other stove, and guarantee a saving in fuel of at least one-third.

The information contained in this pamphlet is sufficient to serve as a key and guide, by which any person can learn what constitutes a genuine "Base-Burner"; and to condemn as unfit for purposes of economy the various stoves made in imitation of the "Morning Glory," and claiming to be "Base-Burners"; and it has been my purpose to so state the facts that any person can learn them; but some there are who use these imitation stoves, and like them because of their cheerful appearance, and, not taking the question of economy into consideration, speak well of them. To such I will say, It matters not how well you are pleased with such stoves, if you desire to be better pleased, and to practice economy, please call upon any person who sells the "Morning Glory," and propose to take one on trial and pay for it providing you like it better, and find it to be more economical than the stove you have been using, and your proposition will be accepted.

I have no apology to make for writing this pamphlet, unless it be to the public for not sooner making known the facts herein contained. I have had a desire to do this for some years past, but the circumstances did not seem to warrant it; but as imitators have grown presumptuous, even to the extent of representing their imitations as being "improvements" upon, and "superior" to, the "Morning Glory," I could not longer permit such assurance to remain unexposed.

D. G. LITTLEFIELD.

Albany, July 20, 1870.



FERGUSON . ALBANY.

APPENDIX.

THE SYPHON FLUE,

(See Cut on opposite page.)

AUXILIARY FOR THE PURPOSE OF HEATING THE BASE MORE PERFECTLY;
A RECENT INVENTION, FOR WHICH A CAVEAT HAS BEEN
FILED IN THE PATENT OFFICE.

It is well known that I have regarded a "Revertible Flue" as unfit to be employed in "Base-Burning" stoves, and for the following reasons: *First*, that, when such flue is used, a proper combustion in the fire-pot cannot be maintained, from the fact that the gaseous products, being turned down below the fire-pot, prevents their *free* escape from it; resulting in filling the interstices among the ignited coal with such gases, so that air cannot freely pass amongst it, as it should to properly support its combustion, producing a *dead red fire*, when it should burn with a *white glow of heat*; and, *second*, that, with such stoves (the revertible flue being used), the gaseous products will also accumulate in that part of the stove above the fire-pot, and *will* (the stove never being gas tight) escape to poison the air of the room.

These were my views when constructing the first pattern of the "Morning Glory," and, not having seen anything to change those views, and much to confirm them, a "Revertible Flue" *will not* be applied to the "Morning Glory" stove.

It is advantageous to so construct a stove that its base can be heated, but not at the expense of a correct principle of construction. This was my purpose when, in 1863, I constructed the No. 3 stove, *the suspended fire-pot*, which stove, it is contended, will warm its base more completely than any "Revertible Flue" stove now in use, providing its ash-pan is cleaned out once per day, and the coal burned is of proper size and quality, and the stove properly treated. But some people *will not* empty the ash-pan, nor be particular about the size or quality of the coal, nor see to it that the stove has *any* attention; and, in *this* way, the object of that improvement may, and probably is, sometimes defeated.

A "Revertible Flue" stove, in the hands of such persons, may obviate *their* difficulty; but, in doing so, it can but produce one of far greater magnitude.

Who would not prefer to *warm* their room even with a stove having a cold base, rather than live in an atmosphere tainted with a deadly poison?

But the world moves; and it is my purpose not to fall behind in improvements. I have, therefore, sought out a plan, without violating a correct principle, for effectually heating the base of the stove, so long as there is a fire in it, whether the ash-pan is emptied or not, and therefore is specially adapted for those who *will not empty the ash-pan*.

I accomplish this by resorting to a well-known principle, the *Syphon*, which is a bent tube, whose arms are of unequal length, which, being filled, and the short arm inserted into a filled cask, will empty it from the bung-hole, providing the long arm extends below the opposite side of it.

To accomplish my purpose, I have inverted the syphon, as, for this purpose, it is to convey a volatile instead of a fixed fluid. I place the short arm so as to be immersed within the heated products of combustion contained in the chamber above the fire-pot, and the long arm so as to discharge into the exit flue and smoke pipe, while the bent portion is to form an annular chamber in the stove-bottom.

The cut but imperfectly represents the invention, but showing the chamber in the base, which is very large. This chamber, at the rear, and between the upright portions of the syphon, is divided by an upright partition crossing it, so that the volume of heat taken in at the short arm (shown by an arrow) will pass down and around the whole periphery of the base before it can reach the long arm, and pass upward to the exit flue and chimney.

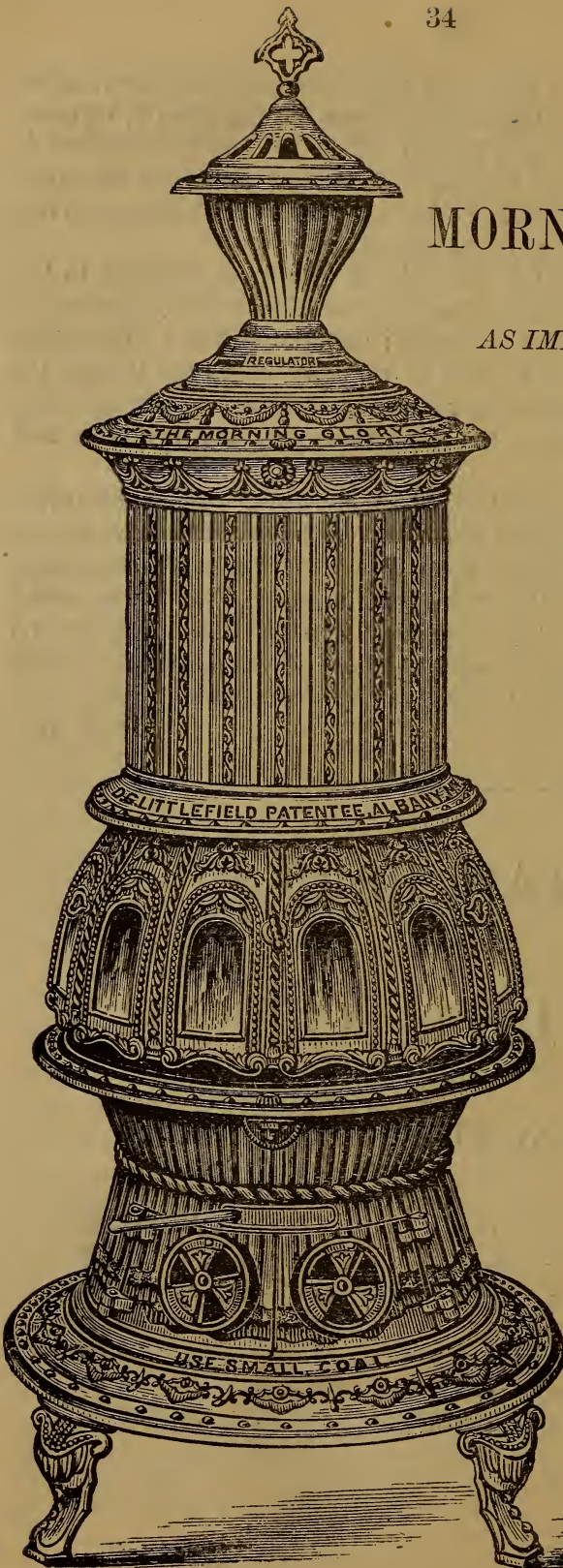
The upright portions of the syphon are made quite small, the purpose being to retard the circulating current *while in the bottom*, keeping it there as long as possible, taking time to fill said chamber, and equal time to empty it, the current being retarded by the smallness of the descending and ascending portions of the syphon.

That this is a purely philosophical improvement must be conceded. We have tested it by a stove thus constructed, and find it to operate precisely as anticipated, and as follows:

On starting the fire the long arm of the syphon is heated by the direct action of the fire, heating the air within it, and causing it to move upward. At the same time, the heated current from the fire, on its passage over the magazine to the exit pipe, passes parallel with (see arrows) and hastens to unite with the discharging current from the long arm. These two forces tend to create a vacuum, and will displace the air from all parts of the syphon, when, as it must be filled, the short arm, being immersed within the chamber receiving the heat from the fire-pot, will receive it to the extent of its capacity, and so fill the enlarged portion in the base, and maintain a heated current in that direction, so long as the fire continues to burn, and this without apparently diminishing the heat from other portions of the stove.

THE
MORNING GLORY

AS IMPROVED FOR 1870.



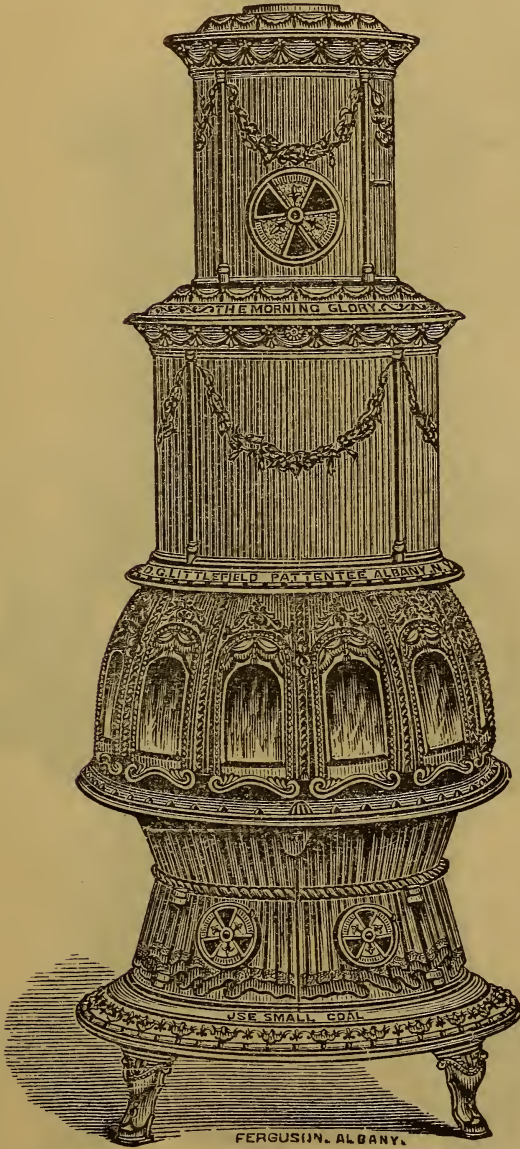
RETAIL PRICES

FOR 1870.

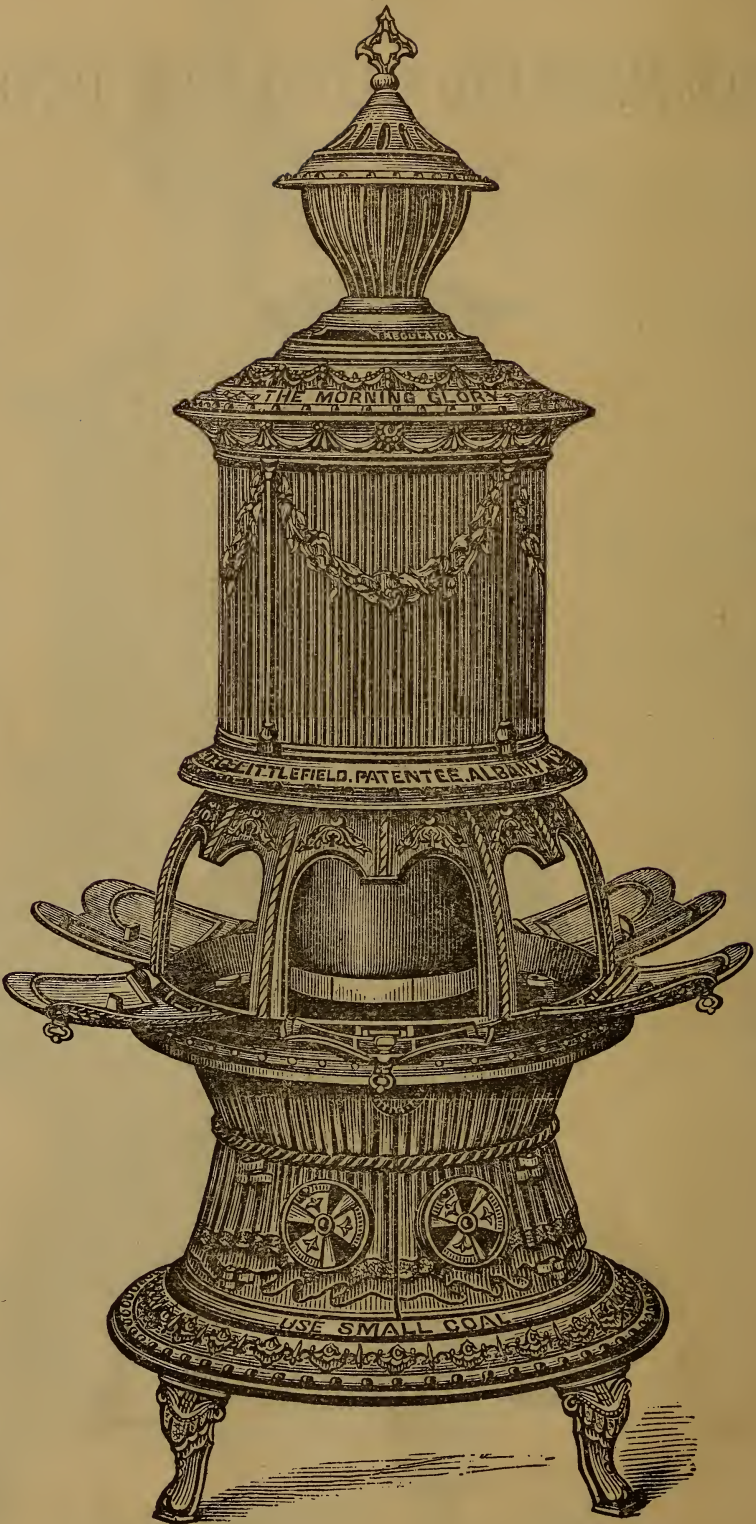
No. 19	Low Top,	\$17 00
" 20	"	20 00
" 21	"	23 00
" 22	"	26 00
" 23	"	29 00
" 24	"	32 00
" 25	"	35 00
" 26	"	38 00
" 26	High Top,	44 00
" 28	"	50 00
" 30	"	60 00
" 32	"	70 00

THE MORNING GLORY FOR 1870.

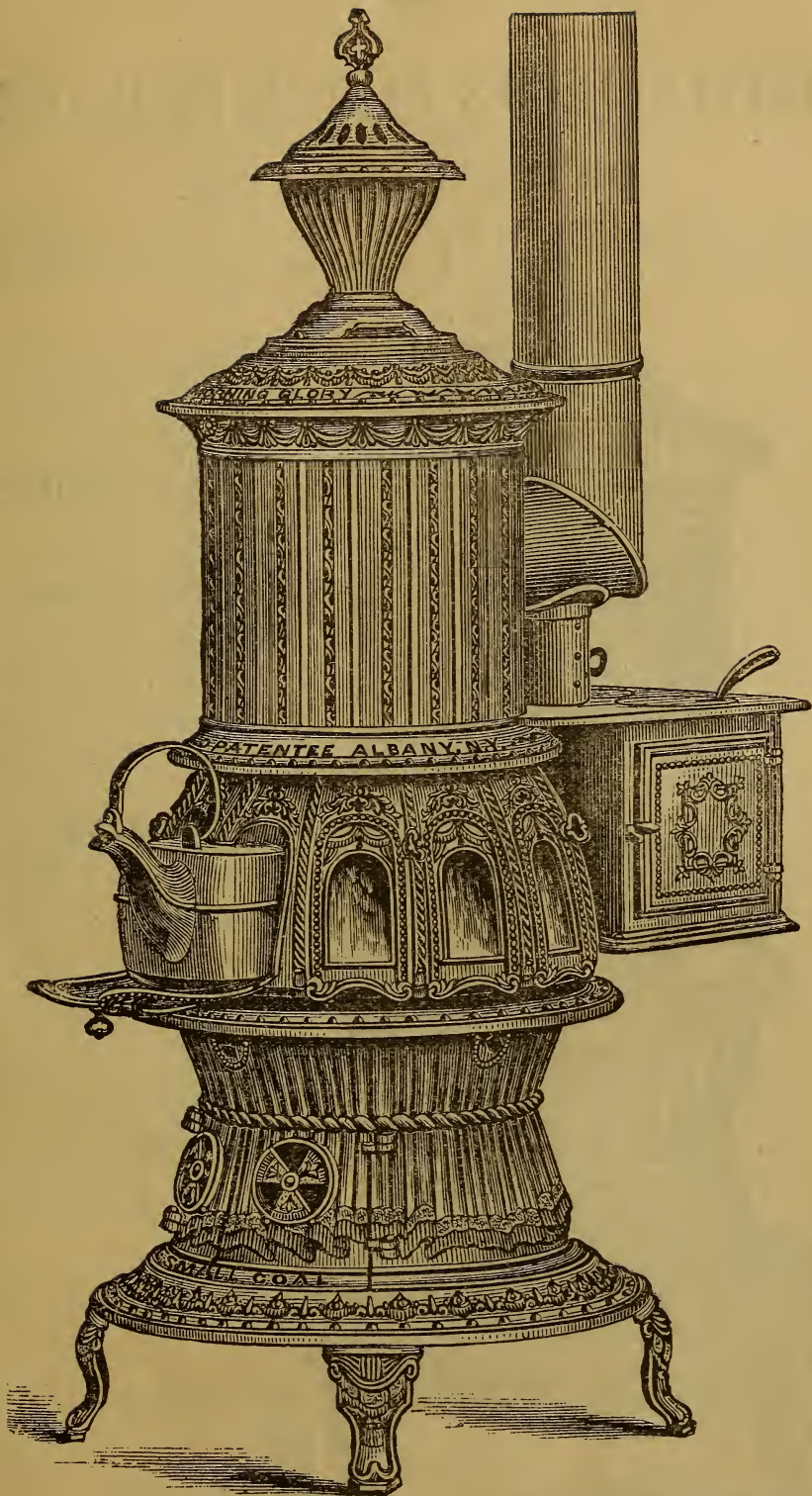
HIGH TOP.



ILLUSTRATING THE NEW CASE FORMED OF DOORS,

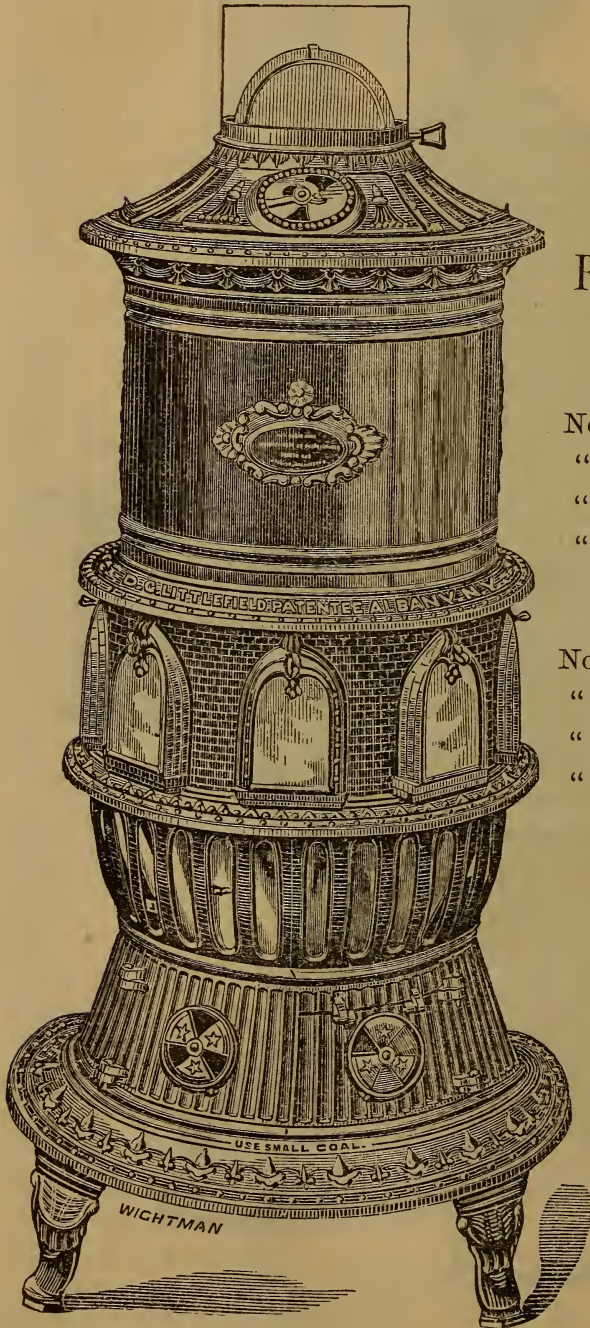


An Invention Patented April 5, 1870.



OVENS.	}	No. 19, 20, 21,	- - -	Net Price, \$2 50
		" 22, 23,	- - -	" 2 75
		" 24, 25, 26,	- - -	" 3 00

LITTLEFIELD'S PARLOR FURNACE, OR DOUBLE HEATER.



RETAIL PRICES.

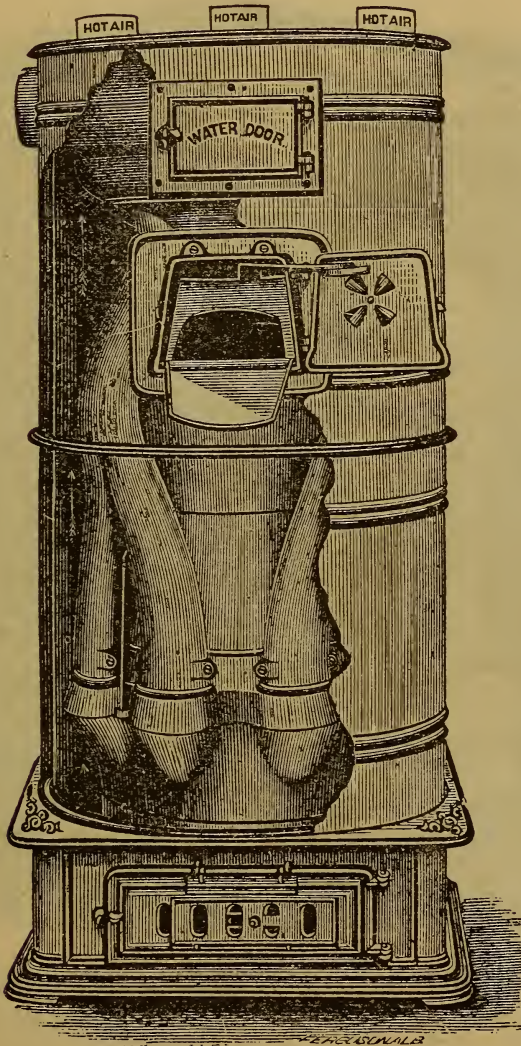
AS A PARLOR FURNACE.

No. 10,	.	.	\$31 00
" 11,	.	.	37 00
" 12,	.	.	44 00
" 13,	.	.	51 00

AS A DOUBLE HEATER.

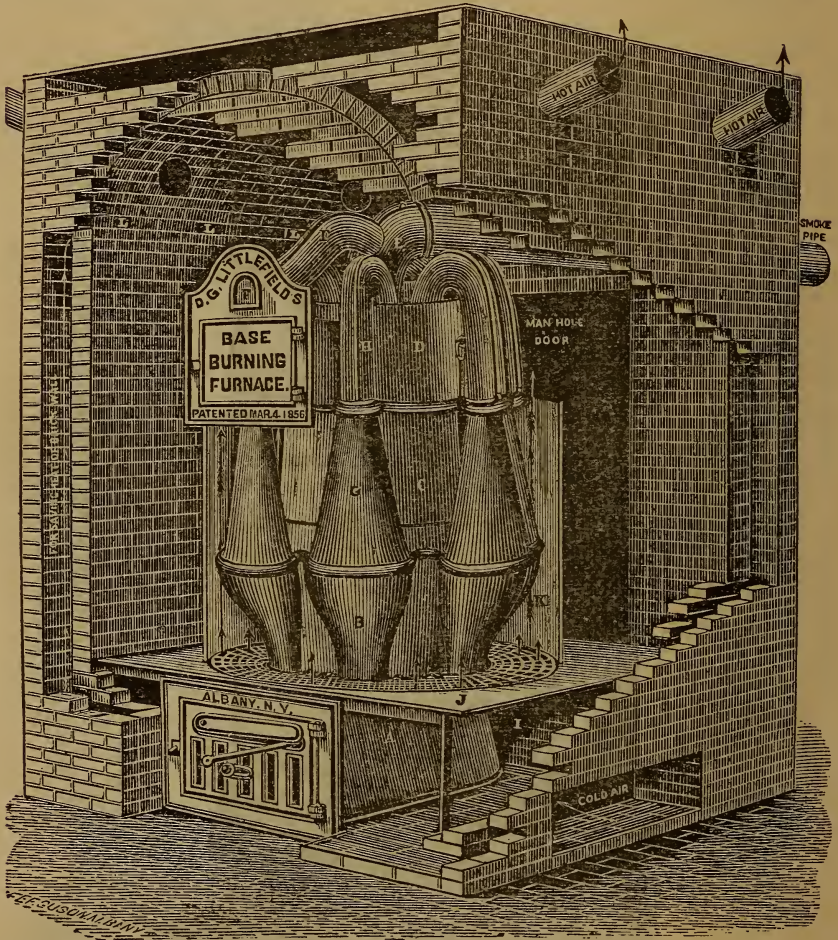
No. 10,	.	.	\$30 00
" 11,	.	.	36 00
" 12,	.	.	43 00
" 13,	.	.	50 00

THE MORNING GLORY PORTABLE HOT-AIR FURNACE.



No. 15, Size of Base,	28 by 28 inches.
" 17, "	30 by 30 "
" 19, "	32 by 32 "
" 21, "	34 by 34 "

THE MORNING GLORY BRICK FURNACE.



No. 19, size of brick work, . . .	5 feet 4 inches by 5 feet 7 inches.
" 22, " " . . .	5 feet 8 inches by 5 feet 11 inches.
" 26, " " . . .	6 feet by 6 feet 3 inches.

Either size can be put up in a cellar that is six feet and six inches in the clear. The numbers 19, 22 and 26 give the diameter of the grate and the magazine of each size respectively.

SPECIAL NOTICE.

An intercourse of many years with those dealing in and using heating stoves, has convinced me that a majority of persons, when purchasing such stoves, select sizes that are too small to heat economically the space required to be heated. It is poor economy to save three, four or even eight dollars, by taking a small size, and afterwards discover that it is too small for the work required of it.

The "Morning Glory" stoves have been manufactured with a view of having them suited to rooms of certain sizes. For a room of ordinary height of ceiling, and taking, to cover the floor, from

15 to 20 square yards of carpet,	a No. 19, 20 or 21
20 to 25 " " " "	21 or 22
25 to 35 " " " "	22 or 23
35 to 45 " " " "	23 or 24
45 to 60 " " " "	25 or 26

Should there be more than the usual number of openings (doors and windows), or any other cause to render the heating of the room more than ordinarily difficult, a larger stove than indicated should be used.

I would say to the trade, better lose the sale of a stove, than permit one of these stoves to be sold for use in a place where you know it is not, or have doubts as to its being large enough to heat the space required of it.

Few persons realize that a room 21 feet by 21½ feet is more than twice as large as one 15 by 15, or that one, the ceiling of which is 12 feet high, has one-third more cubic feet of space than one of the same size and 9 feet ceiling.

Nos. 26, 28, 30 and 32, High Top, are designed for large rooms, halls, stores, etc., and the size used should be selected according to the size of the room.

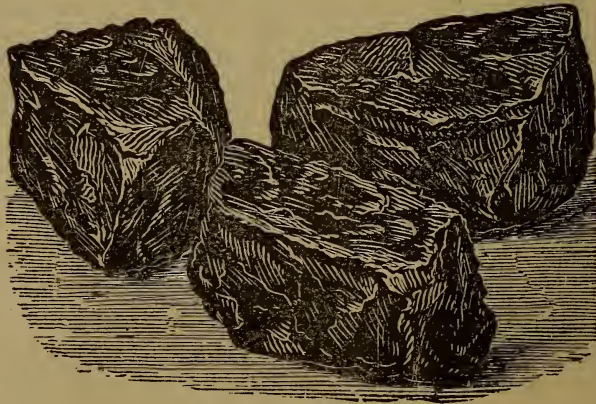
The above remarks are based upon my own experience and observation, and are submitted to the trade and the public, with the hope that they may have a beneficial effect.

INSTRUCTIONS FOR USE.

SIZE OF COAL.



CHESTNUT SIZE.



NUT SIZE.

PREFACE.

See that the stove is perfect; that the mica windows are properly fitted. See also that the pipe is properly fitted, and that there is no other opening to the same flue left open.

STARTING THE FIRE.

Proceed as with any stove; have it burn slowly at first; leave the reservoir cover open when igniting the kindlings, to avoid smoking the windows. Supply hard coal at first in small quantity, and

when once ignited fill the reservoir full and close its cover, *and keep it closed at all times*, except when it becomes necessary to supply coal. If this cover is left open, or opened to hasten the action of the stove, it permits the whole mass of coal to become ignited,

SPECIAL!!

and will destroy the interior arrangements by burning them up, and cause the coal to waste away the same as in a common stove.

EXPLOSIONS AND ESCAPE OF GAS.

To re-fill with coal, the reservoir cover should be first opened, and thereby avoid the escape of gas to the room. After supplying coal, first close the outer cover, then the reservoir cover. This invention, the object of which is to prevent the escape of gas to the room, is patented irrespective of its peculiar construction. No "Base-Burning" stove is or can be safe in those respects that does not employ this invention.

RE-KINDLING.

When the fire is out from neglect to supply coal, shake out the ashes, and kindle on the old coal the same as on the grate in the first instance, which can be done with ease, unless the quantity remaining more than fills the pot, in which case shake out a portion until the depth is only from four to six inches, which will ignite from the top and burn down to the bottom.

PERPETUAL BURNING

To keep the fire over night, shake out the ashes and slag by means of the "Mill Grate." *See that the reservoir is well supplied with coal.* Nearly close the draft register, and open the regulator on the top cover, so as to permit cold air to pass in at the top, which will check the draught and cool the stove, so that the coal will burn slowly during the night, and the stove be in fine condition for action in the morning.

SIZE OF COAL.

Small coal must be used, though this is not so important as with some of my former stoves. All sizes of the "Morning Glory" will do well with a size of coal that is suitable for a No. 7 cook stove; but they will do far better if proper attention is paid to adapt the size to the size of the stove; say for Nos. 19, 20 and 21, chestnut or nut size; 22, 23 and 24, nut size; 25, 26, 28, 30 and 32, small stove size. Never select the size of coal to be burned by looking at the grate, it being a "mill grate," and not open across its entire surface, permits a large opening at the centre. More coal will pass through the grate and be wasted when too large for the size of the stove, than when it is quite small, owing to the fact that if the coal is too large, combustion ceases after a time, immediately above and upon the grate, and such imperfectly burned coals are milled through with the ashes and slag; whereas, if it is small and of the proper size, none will pass through after starting the first fire.

THE "PIONEERS."

As to my connection with them and their successors a large volume might be written; but the time is not yet when *all* the facts should be stated; nor is it necessary to justify my reference to them in this publication.

These parties, for purposes of gain, have represented throughout the country that, for a valuable consideration, I parted with my "exclusive right" within the states of New York and Connecticut, to *make, sell and use* my inventions in "Base-Burning" stoves, when to their knowledge nothing could be more untrue.

Prior to the month of April, 1853, I was the owner of Letters Patent, bearing date April 15, 1851, for an improvement in Parlor "Cooking Stoves," a stove which did not, and was not intended to employ a "fuel magazine," but was so made as to burn the coal precisely the same as in the common stove.

Prior to this time I had made what was supposed to be an improvement upon this stove—an arrangement for burning the gases arising from the burning coal—and had made application for a patent upon the same, and which was then pending.

These stoves I proposed to have made upon a royalty, and started out from Lowell, Mass., then my place of residence, for the purpose of making such arrangements.

I first arranged with parties at Boston for the States of Massachusetts, Rhode Island, Vermont, New Hampshire and Maine; then with parties at Philadelphia for Pennsylvania and New Jersey; then with parties at Baltimore for Maryland, Delaware, and the States south; when I came to Albany and contracted with Treadwell & Perry for the States of New York and Connecticut.

All of these agreements were the same in character, and embraced the patent of 1851 only, with improvements thereafter to be made upon the same. None of these agreements were ever cancelled, and no person has ever claimed under them any right or interest in my inventions in "Base-Burning" stoves, excepting under this agreement with Treadwell & Perry. Neither of the two stoves referred to in said agreements were ever made at Albany, or elsewhere, subsequent to the making of said agreements.

The agreement with Treadwell & Perry was executed on the 5th day of April, 1853, and on the same day said application for a patent was rejected, but was unknown to me until about the 10th of said month, and after I had returned to Massachusetts; and it was subsequent to this time that I devised the stove of 1853, patent of January 24, 1854.

None of these agreements were assignments of my "exclusive right" and "title" in any patent, but were contracts, by which the parties were to have the right to make and sell certain stoves, by paying me a "royalty" upon each stove sold, for the right to do so; and in all of said agreements my right to make "Hot-Air Furnaces," embracing said inventions, was reserved to be disposed of as afterwards I might see fit.

Any person can ascertain by reading sections 11 and 14 of the Act of 1836 (the Patent Law), that such agreements gave no right to bring suits for the infringement of said patents, and for the reason that the parties thus contracted with were licensees only, having a right to make certain stoves, so long as they paid the "royalty," and no longer.

Having devised the stove of 1853 (patent of 1854), I had no desire to make either of the two first-mentioned stoves, and my purpose was not to do so; but instead, to make the last-mentioned stove. I saw all the parties with whom I had contracted with a view to have them substitute and manufacture the last-mentioned stove, instead of the one contemplated when making said agreements, and which they all declined to do, excepting Treadwell & Perry.

It was a part of these agreements that I was to furnish *undressed cast iron patterns* for four several sizes of stoves, which should embrace the supposed invention for which I had applied for a patent. This I declined to do; but proposed to furnish, instead, four sizes of the new construction, which they all declined to receive, excepting Treadwell & Perry; though the party at Baltimore, after the 1854 patent was granted, came to Albany, and to the knowledge of Treadwell & Perry, made a new agreement with me to be furnished with the same patterns that had been furnished to Treadwell & Perry.

It will thus be seen that my first "Base-Burning" stove was not secured by any patent until after it had been manufactured one season, and by its manufacturers had been pronounced a "dead failure."

My arrangement with them to make this stove instead of the one contemplated when making the agreement was a verbal one; and if it was true, that said stove was a "dead failure," it was a sufficient reason for their refusal to pay me a royalty for the right to make it; and it is possible that if said firm had not felt under some obligations, by reason of this verbal agreement to pay me a royalty, notwithstanding said stove was not patented, it might not have been so much of a "dead failure" as they claimed it to be.

They agreed to pay me the royalty mentioned in the written agreement; and the understanding was, that if I procured a patent, we

would then either make a new agreement, the royalty to be the same, or add a clause to the written agreement, so as to properly protect the rights of parties; and thus the matter stood as arranged between Mr John S. Perry and myself, at Albany, on the 18th day of May, 1853.

Said stove was patented on the 24th of January, 1854; but the papers being sent to my attorney at Boston, were not received by me until some time in February, before which time said firm had evidently abandoned all idea of ever making any more of said stoves.

When said patent was received, I took it to their office for the purpose of completing or perfecting the understanding had with said firm in May previous; but they declined to take any action in regard to said written agreement, and handed me the patent, as being a matter or thing in which they had no right or interest.

Throughout the year 1854 I made every effort possible, by persuasion, to induce said firm and their successors, Treadwell, Perry & Co., and W. and J. Treadwell, Perry & Norton, to carry out in good faith what they had agreed to do in May, 1853; but they declined, and did not make any whole stoves in 1854, though they sold a few that year which had been left over from the previous year, after being modified in some respects, but pronouncing them a "dead failure" all the time; and evidently to *show* that they so believed them to be such a failure, in January, 1855, they brought together all of those stoves, then on hand, from their "sample room" and store houses, and broke them up, to be melted and used in making other stoves; when it was clearly understood that they could not be induced to proceed any further in the premises.

After this, and prior to April 1st, 1855, I called upon these parties for a settlement, and to allow me on such settlement a royalty upon the stoves that had been sold, as they had agreed to do; when they declined, and refused to allow such credits, and insisted that I should pay them \$750, with interest from April 1st, 1853: a sum which I was owing them when making the written agreement, and which they therein agreed, and afterward verbally agreed, should be paid from the royalties upon said stoves. And afterwards, in July, 1857, Mr. John S. Perry and Mr. Wm. B. Treadwell, who composed the dissolved firm of Treadwell & Perry, brought suit to recover this \$750, said Perry making oath to the complaint, and that I was then owing them the said \$750, with interest; which complaint and the affidavit thereto attached are now in my possession.

None of these parties have ever paid, or offered to pay me the first dollar, for any right or privilege to make, use or sell my inventions. Their whole course has been an outrage, in that I have never been benefited by my connection with them to the extent of one cent; whereas I have paid out to defend myself against THEM, *as it would appear upon the surface*, more than TWENTY THOUSAND DOLLARS; and probably ONE HUNDRED THOUSAND DOLLARS would not indemnify me for the damages

I have suffered in consequence of the proceedings wherein THEY have *appeared to be* the parties proceeding against me.

Treadwell & Perry had a right, in 1853, to make my stoves as patented January 24, 1854, for the reason, and that only, that we verbally so agreed *in May, 1853*. Had they paid me the royalty agreed upon, and continued to manufacture them, their right *as licensees* would undoubtedly have been perfect. But a refusal to pay the royalty, or a discontinuance of their manufacture, would as certainly end the arrangement, and relieve me from all obligation to them by reason of it. And it is immaterial whether they acquired the right to "*make,*" "*sell*" and "*use*" this invention of 1854 by virtue of said written agreement, or by the verbal agreement; as in either case, when they refused to pay the royalty, and discontinued the manufacture of said stoves, it put an end to the arrangement, and permitted me to make arrangements with other parties without liability to them. But if, "by hook or by crook," it could be made to *appear* that Treadwell & Perry received from me a "*legal assignment*" of my inventions, they would be treated as *owning* them. In which case it would be entirely immaterial in a suit against me whether or not they had made any stoves, or performed their part of the agreement in any respect. *This is the position they assumed without any right, and without which they never could have given me any trouble.*

The firm of Treadwell & Perry was dissolved in June, 1854, and was succeeded by Treadwell, Perry & Co.; which firm was dissolved on the first of November, 1854, and was succeeded by W. and J. Treadwell, Perry & Norton; which firm failed in May, 1860, leaving all the general partners insolvents to the extent of several hundred thousand dollars. Their effects, by an order of the Supreme Court of this State, went into the hands of a receiver for the benefit of their creditors.

In March, 1862, as it would seem, "Treadwell & Perry," who had been a dead firm for eight years, discovered that there was some property after all which did not go into the possession of said receiver, consisting of the "exclusive right" to use my inventions in "Base-Burning" stoves within the states of New York and Connecticut; and, unknown to me, pretended to sell this "exclusive right" for *three hundred dollars*; and on the 5th day of said month executed a transfer to one George W. Sterling, of Poughkeepsie, N. Y.; which assignment was duly recorded at the patent office upon the record of assignments of patents.

On the seventh day of the following month they pretended to sell this same property to one Andrew Dickey (now a member of the firm of Perry & Co.), for *fifty dollars*. This was cheap; but as they had already sold it to Sterling, and had executed to him a proper assignment of their "interest in and arising out of the contract with Dennis G. Littlefield, dated April 5, 1853, and to the patents and improvements and extensions thereof in the said contract transferred or referred to," they probably did not have the assurance to ask Dickey to pay them more than fifty dollars

for nothing, which was all that he could possibly receive by his assignment from them.

But Dickey got out of it without loss. On the second day of July 1862, as appears by the record of assignments of patents at the patent office, he assigned his "right and interest (which was nothing) in the said contract with the said Littlefield, and in the patent and patents therein referred to," to Mary J. Perry, the wife of Mr. John S. Perry, for the sum of fifty dollars.

While these various transfers were taking place, *and not until then*, did Mr. John S. Perry begin to advertise that he was the "*agent for the owner of the patent for the said two States.*"

These pretended transfers of the "exclusive right" to put my inventions in practice within the states of New York and Connecticut was the base of an "equity suit" in the Circuit Court of the United States, that is without its equal, and probably will always remain so. A suit that has cost thousands of dollars to defend, and which has undoubtedly cost somebody corresponding thousands to prosecute. And the most singular part of it is the fact that it was instituted by a woman having no property, and having a husband to act as her agent in conducting it, and he *an insolvent* to the extent of *hundreds of thousands of dollars.*

To fully understand the wrongfulness of this suit, the *law* and the *rules* established by the Supreme Court at Washington, to guide the various Circuit Courts in their proceedings, must be understood.

It does not follow that, because Circuit Courts of the United States have been established in the various States, every man can proceed therein at will to bring suits as he may do before a Justice of the Peace and in the State Courts.

The law, as set forth in the twenty-fourth equity rule, provides that "*every bill shall contain the signature of counsel annexed to it, which shall be considered (by the Court) as an affirmation on his part, that upon the instructions given to him, and the case laid before him, there is good ground for the suit, in the manner in which it was framed.*"

This *law* and *rule* was established to prevent the institution of suit without *legal* and *equitable* cause. This being the case, when a bill of complaint is *so endorsed* and filed, the Court, when it comes to act in the premises, starts off with the idea fixed upon its mind that the defendant *have committed a wrong act*, for which the *law* is invoked to prevent and put an end to. This one man, *an arbitrary power*, is bound by his oath of office to protect this plaintiff who has been so endorsed *by a counselor of his Court*; and if the defendants are so unfortunate as to fail to convince *this power* that the *plaintiff* and *counselor* are in the wrong, and that they themselves are in the right, the case is a foregone conclusion so far as to its consideration by this same Judge.

The first dash (I cannot think of a better term) made in said suit was a motion for an injunction; upon the argument of which the defendants

through the neglect of their own attorney, were not present. The same was granted, and by its terms the defendants were commanded to "*absolutely desist and refrain from using or in any way putting in practice the improvement in stoves or invention described in or covered by the several letters patent to Dennis G. Littlefield, bearing date the 15th day of April, 1851, the 24th day of January, 1854, the 25th day of June, 1861, and the 19th day of November, 1861, or either of them.*" Thus commanding me not to do what all *certified copies* of the bill *filed in the clerk's office* showed clearly that I had a perfect right to do.

It was supposed for more than three years that on granting this injunction the Court did not write an opinion; but it was finally discovered that one was written, and filed at the clerk's office (A. A. Boyce, Esq., of Utica, N. Y.) at the same time the order for said injunction was filed; though too late to take advantage of it, which might have been done had the defendants received a copy of it at the same time they received from Utica a copy of the order of the Court that said injunction might issue against them.

It was stated in said opinion that "the bill in this case was filed by the plaintiff for the *infringement of certain patents* granted to D. G. Littlefield, one of the defendants, for improvements in stoves, of which she claims the 'exclusive right,' by assignment of the territories of the States of New York and Connecticut."

No such bill as here described was ever filed in this cause at the clerk's office, or served upon the defendants, as the records of the Court will clearly show.

It was further stated in said opinion, that "the answer sets up, as the sole grounds of defense, that the letters patent under which the plaintiff claims title had not been duly assigned to her, or, in the words of the answer, had not been legally assigned and transferred to Treadwell & Perry, and from Treadwell & Perry, through various parties, to the complainant, Mary J. Perry."

The bill in this cause, filed at the clerk's office, also the copy of the same that was served upon the defendants, contains a copy of the agreement before referred to, of April 5th, 1853; and therefore clearly showed upon its face that this answer of the defendants, from which the Court quoted, was *literally true*, and that it was a perfect defense against said motion. This necessarily appears upon an examination of all certified copies of said bill; and it was to such a copy of it that the defendants made said answer.

Said opinion further stated, that "the bill sets out various assignments reducing a title from the patentee to the 'exclusive right' to the *use of the patents* for the territories above mentioned to the complainant, and *duly authenticated copies of the same have been produced on this motion for the injunction.*"

A "duly authenticated copy" of an assignment is a paper certified by

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the Commissioner of Patents to be a copy of an assignment, as found recorded in the books of assignments of patents, at his office at Washington. Said record at Washington *will not show* that I have ever made *an assignment* of a patent, or of my "exclusive right" under a patent for any district or territory to the said Treadwell & Perry. And as I have before offered to pay, I will now agree to pay ONE THOUSAND DOLLARS to any person who will produce such a "duly authenticated copy" of an assignment from me to the said Treadwell & Perry, as the Court stated in said opinion was produced upon said motion.

I am not aware that the acting Judge was under any legal obligations to write an opinion at that time; but if none had been written, the records of the Circuit Court of the United States for this district would not have shown *why it was* that said injunction was granted.

Said opinion shows a reason by stating the character of the papers *required to be produced by a plaintiff*, upon making such a motion; and by stating that *such papers* were then produced. It carefully mentioned papers which corresponded with the *requirements of the law*, and which *must be produced* upon making such a motion before the Court can *legally act* in the premises. An opinion which the parties, in whose favor it was, dare not publish and undertake to show its justification.

Query. Was the law suspended upon that occasion? or, were *such papers actually produced* before the Court? Without their production, as must be apparent, said injunction could not have been granted *without a clear violation of law*. With their production, as must also be apparent, *a fraud was practised*, which resulted in giving to a plaintiff a position in the United States Court to sue for *the infringement* of a *Letters Patent*, the *legal title* to which she *did not* (as was stated in said opinion) claim to own; which fact was, and is clearly shown by all *certified copies* of her said bill of complaint, forming a part of the record of said cause to be found at the clerk's office of said Court.

This history I cannot pursue any further at the present time. What I have written, as strange as it may seem, can be proved by documentary evidence; and though it is probable that this statement will never reach all that have read the libelous publications of these "pioneers," nor completely counteract the effects produced by their publications, it must, I think, convince those who read it that a great wrong has been committed, for which some person or persons must be responsible; and that the pretense by this suit that I sold my inventions, and afterward infringed a right thus disposed of, is a slander of a very infamous character, fully justifying a publication of this statement.

D. G. LITTLEFIELD.

Albany, July 25th, 1870.

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THE LITTLEFIELD
STOVE MANUFACTURING CO.

ALBANY, N. Y.

*ORGANIZED JULY 25, 1865, UNDER THE LAWS
OF THE STATE OF NEW YORK.*

IRA JAGGER AND D. G. LITTLEFIELD,
SOLE PROPRIETORS.

D. G. LITTLEFIELD,
GENERAL SUPERINTENDENT.

IRA JAGGER,
TREASURER.

THEODORE F. MINER,
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